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VEHICLE CERTIFICATION AGENCY

Mrs S Boyle
Psion Teklogix Incorporated
C/o RFI Global Services Limited

Your Reference:

Our Reference: EAE059966

Date: 18 November 2004

Dear Mrs Boyle

MANUFACTURER OR ACCREDITED AGENT: **Psion Teklogix**

EEC DIRECTIVE: **72/245**

Job No.	**Vehicle Type/Component**	**Approval No.**	**Index Rev. No.**
EAE059966	Vehicle Mount Computer Model, 8525	e11*72/245*95/54*3024*00	Not applicable

1. This vehicle type/component has been tested and meets the requirements of the above EEC Directive. I enclose a set of approval documents, comprising the approval, test report and your documentation duly authenticated.

2. If you think there are any errors in the enclosed package, please contact Andrew Meadows, telephone 0117 952 4187 immediately. Please be aware that from the date of issue we have a three week holding period, any corrections required after this time will need to be corrected via an extension, index revision or correction 1 certificate, as appropriate.

ROAD TRAFFIC ACT 1988 - SECTION 80

3. The Secretary of State for Transport authorises, under section 80 of the Road Traffic Act 1988, the above manufacturer or accredited agent to apply to the motor vehicle type/part specified, the appropriate mark designated in the Motor Vehicles (Designation of Approval Marks) Regulations 1979, as amended. The conditions attached to this authorisation are set out overleaf.

4. If this approval/extension results in a change being needed to a vehicle information document issued under the goods vehicle or passenger car national type approval scheme, you should notify us (i.e. submit a 'notifiable alteration') as soon as possible, using the address VCA (Whole Vehicle), Room 1.2, The Eastgate Office Centre, Eastgate Road, Bristol BS5 6XX.

5. VCA is continually scrutinising the quality of the service it provides to customers, in order to discover more ways in which the standard can be improved. If you have a specific complaint concerning the way this job has been dealt with, our customer services leaflet gives guidance on the best approach. If you would like a copy, please contact the undersigned.

6. Please note that when e-mailing staff at VCA, the address should be as follows: ‘firstname.surname@vca.gov.uk’.

7. Please be aware that we are now using the Adobe 6 version of Acrobat. This can be down loaded from the following site http://www.adobe.com/products/acrobat/readermain.html

Yours sincerely

Elaine Hill
Product Certification

CONDITIONS

1. This Approval may be withdrawn at any time and while held is subject to the following conditions.

2. Conditions of Motor Vehicle Parts.

2.1 The holder of this approval shall put the approval mark described in the Motor Vehicles (Designation of Approval Marks) Regulations 1979 as amended only on Motor Vehicle Parts that:

a. have been manufactured, assembled or completed in factories under his control and

b. conform in all material respects with the samples, which were tested before this approval was issued.

2.2 The holder of this approval shall mark his products in the manner set out in the relevant Regulation/Directive as given in the Motor Vehicles (Designation of Approval Marks) Regulations 1979 as amended together with:

a. the approval number allocated by the Secretary of State for Transport.
b. his name or trademark
c. any other markings specified in the appropriate International Regulation

2.3 The holder of this approval shall be prepared at any time to satisfy Department for Transport officials or agents of the Department,that the quality of the part being produced and marked or intended to be by him with the approval marking conforms in all material respects with that of the samples tested as the International Regulation requires.

2.4 The holder of this approval undertakes to admit duly authorised officials or agents of the Department at all reasonable times to any premises in which parts marked or intended to be marked are being manufactured, assembled or stored and to permit any such official or agent to inspect parts and all records relating to them and their production processes.

2.5 This approval may be suspended or withdrawn by the Secretary of State for Transport at any time without any particular length of notice being given and in the event of that being done the holder will absolve the Secretary of State from any claim for damages or compensation.

3. CONDITIONS FOR MOTOR VEHICLES

3.1 The holder of this approval shall put the approval mark described in the Motor Vehicles (Designation of Approval Marks) Regulation 1979 as amended only on Motor Vehicles fitted with Motor Vehicle parts which Motor Vehicles as fitted with such parts conform with the type of Motor Vehicle approved by as on behalf of the Secretary of State for Transport and only on Motor Vehicles that:

a. have been manufactured, assembled or completed in factories under his control and

b. conform in all material respects with the type of Motor Vehicle, which was tested before an approval certificate was issued.

3.2 The holder of this approval shall mark motor vehicles of the type approved, in the manner set out in the relevant Regulation/Directive using the authorised approval mark as given in the Motor Vehicles (Designation of Approval Marks) Regulation 1979 as amended together with the approval number allocated by the Secretary of State for Transport.

3.3 The holder of this approval shall mark Motor Vehicles of the type approved in the manner set out in the relevant Regulation annexed to the United Nations agreement of 1958 as amended using the authorised approval mark which comprises a capital letter E followed by the number 11 within a circle together with the approval number allocated by the Secretary of State for Transport.

3.4 The holder of this approval shall be prepared at any time to satisfy Department for Transport officials or agents of the Department that Motor Vehicles of the type approved which have been produced and marked or that are intended to be marked by him conform in all material respects with the type of vehicle approved.

3.5 The holder of this approval undertakes to admit duly authorised officials or agents of the Department at all reasonable times to any premises in which the Motor Vehicles of the type approved which have been or are intended to be marked are manufactured, assembled or stored and to permit any such official or agent to inspect the Motor Vehicles and all records relating to them and their production processes.

3.6 This approval may be suspended or withdrawn by the Secretary of State for Transport at any time without any particular length of notice given and in the event of that being done the holder will absolve the Secretary of State from any claim for damages or compensation.

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VEHICLE CERTIFICATION AGENCY

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY Rev 1/03

COMMUNICATION CONCERNING THE APPLICATION OF THE COUNCIL DIRECTIVE OF 20 JUNE 1972 ON THE APPROXIMATION OF THE LAWS OF THE MEMBER STATES RELATING TO A TYPE OF COMPONENT WITH REGARD TO RADIO INTERFERENCE SUPPRESSION (72/245/EEC) AS LAST AMENDED BY 95/54/EC

Type Approval No: e11*72/245*95/54*3024*00

Reason for Extension: Not applicable

SECTION I

0.1 Make (trade name of manufacturer): Psion Teklogix

0.2 Type and general commercial description(s): Vehicle Mount Computer Model: 8525

0.3 Means of identification of type, if marked on the component: Black on white label stock

0.3.1 Location of that marking: Refer to Document MFG label specification 8525 engineering specification.

0.4 Category of vehicle(2): Not applicable

0.5 Name and address of manufacturer:

Psion Teklogix Incorporated
2100 Meadowvale Boulevard
Mississauga
Ontario
L5N 7J9
Canada

0.7 In the case of components and separate technical units, location and method of affixing of the EEC type-approval mark: Refer to Document MFG label specification 8525 engineering specification

18-Nov-2004
UK APPROVAL AUTHORITY

0.8 Address(es) of assembly plant(s): As 0.5 above

SECTION II

1. Additional information (where applicable): See Appendix 1

2. Technical service responsible for carrying out the tests: Radio Frequency Investigation Limited

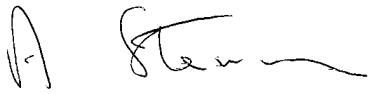
3. Date of test report: 5 November 2004

4. Number of test report: RFI/EMCE1/RP46573JD02A

5. Remarks (if any): See Appendix 2

6. Place: BRISTOL

7. Date: 18 NOVEMBER 2004

8. Signature: 

A. W. STENNING
Head of Product Certification

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

EAE059966

APPENDIX

to EEC Type Approval Certificate No: e11*72/245*95/54*3024*00
concerning the type approval of an electric/electronic sub-assembly with
regard to Directive 72/245/EEC as last amended by Directive 95/54/EC

1. Additional information:

1.1 Electrical system rated voltage: The device can be connected to any supply vehicle with a voltage between 10V(DC) and 90V (DC) (i.e 12,24,48, or 72V (DC)

1.2 This ESA can be used on any vehicle type with the following restrictions: Any supply voltage between 10V DC and 90V DC

1.2.1 Installation conditions, if any: See manufacturer's documentation
.

1.3 This ESA can only be used on the following vehicle types: Not applicable

1.3.1 Installation conditions, if any: Not applicable

1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were: Not applicable

1.5 Approved/recognised laboratory (for the purpose of this Directive) responsible for carrying out the test:

Radio Frequency Investigation Limited, Hampshire

5. Remarks: None

* *Delete as applicable*

(1) *If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document/type-approval certificate, such characters shall be represented in the documentation by the symbol `?' (e.g. ABC??123??).*

(2) *As defined in Annex II A to Directive 70/156/EEC.*

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VEHICLE CERTIFICATION AGENCY

APPROVAL NUMBER: e11*72/245*95/54*3024*00

INFORMATION PACKAGE CONTENTS

INDEX

REVISION NUMBER: Not applicable

Total number of sheets:	327 (Three hundred and twenty seven)
Number of separate drawings:	0 (Nil)
Number of separate photographs:	0 (Nil)

Reasons for Revision: Not applicable

EAE059966

Revision date
&
Office stamp

18-Nov-2004
UK APPROVAL AUTHORITY

***INFORMATION DOCUMENT RELATING TO VCA JOB NUMBER* EAE059966**
RELATING TO TYPE APPROVAL OF AN ESA WITH RESPECT TO ELECTROMAGNETIC COMPATIBILITY (72/245/EEC) AS LAST AMENDED BY 95/54/EC.

Vehicle Mount Computer Model: 8525

0. GENERAL

0.1 Make (trade name of manufacturer):

Vehicle Mount Terminal Model: 8525

0.2 Type and general commercial description (s):

Vehicle Mounted Computer Terminal.

0.3 Means of identification of type, if marked on the component:

Black on white label stock

0.3.1 Location of that marking:

Refer to DOC MFG LABEL SPEC 8525 ENGINEERING SPECIFICATION

0.5 Name and address of manufacturer:

Psion Teklogix Inc.
2100 Meadowvale Boulevard
Mississauga
Ontario
L5N 7J9
Canada

0.5.1 Name and address of manufacturer's representative:

Psion Teklogix S.A
La Duranne
135 Rue Rene Descarted
BP421000
13591 Aix-EN-Provence
Cedx 3
France

0.7 Location and method of affixing of the EEC approval mark:

Refer to DOC MFG LABEL SPEC 8525 ENGINEERING SPECIFICATION

0.8 Address (es) of assembly plant (s):

As manufacturer

1. This ESA shall be approved as a Component / ~~STU.~~

Component

2. Any restrictions of use and conditions for fitting:

None

The restrictions for use as regards this application are the test configuration used during the test. Any deviation from this configuration may compromise the EMC performance of the system.

Appendix 1

The ESA chosen to represent the type: Vehicle Mount Computer Model: 8525
Further details about the equipment under test, accessories, support equipment and interconnection cables are provided in RFI test report serial number RFI/EMCE1/RP46573JD02A, which is enclosed in Appendix 2 of this document.

This Appendix (Appendix 1) contains the following:-

Documentation Supplied By The Manufacturer

1. Product Specification

2. User Manual

3. Label Diagram

4. Technical Drawings

These pages are not included in the total number of pages for this document.

8525 Vehicle-Mount Computer

RFID READY

Driving Technology

The 8525 is a Windows CE .NET based vehicle-mount computer engineered to deliver maximum performance, ruggedness and integration, required for mobile data collection in the harshest mobile environments, in and out of the 'four-walls'. The user-friendly 8525 is designed to deliver **F**lexibility, **I**ntegration, **R**uggedness, **E**rgonomics (**FIRE**) day-in and day-out. The 8525 can also be configured to operate in **I**ntense and **C**old **E**nvironments (**ICE**). The features of **FIRE** and **ICE** put the 8525 in a class by itself. Add to this, robust expansion and connectivity options, and it is easy to see why the 8525 is the only choice for use in rugged environments like warehouses, freezers, ports, yards and wide-area mobile applications. And, like the rest of Psion Teklogix' Next Generation Terminal platform products, the 8525 is based on industry standards to ensure it integrates easily with your existing or future infrastructure.

ADVANTAGES

- **Extreme Ruggedness:** The 8525 is designed to stand up to the harshest and most extreme environments and deliver the solution 'uptime' that users expect from Psion Teklogix devices. Rated at IP66, the 8525 is protected against dust and sprays of strong jets of water, all at temperatures as low as -30°C (-22°F)! The 8525 can also withstand substantial shock and vibration transferred from vehicles as they work in rugged indoor and outdoor applications.
- **Flexibility & Integration:** Class-leading flexibility and integration is achieved through the use of standards-based software and hardware components combined with robust expansion capabilities. Based on Windows CE .NET and Intel XScale architecture, the 8525 enables seamless application development and integration capabilities. Compact Flash, SD/MMC and Type III PC-Card along with external port options enable a variety of scanners, imagers, WLAN (802.11 and Narrowband), WWAN (GSM/GPRS, CDMA), etc to combine to make the 8525 as flexible as the application requires even in intense and cold environments.
- **Ergonomic:** The 8525 has been developed to ensure maximum viewing angle and efficiency of use. The 8525 has a logical control layout and an extremely crisp, bright easy-to-read display.

VCA 18-Nov-2004

PSION TEKLOGIX

information in motion

8525 Vehicle-Mount Computer

Specifications

PROCESSOR & MEMORY

- Intel XScale PXA 255 @ 400MHz
- 32KB instruction / 32KB data cache
- On-board RAM: 128 MByte SDRAM
- On-board ROM: 32 MByte FLASH

OPERATING SYSTEMS

- Windows CE .NET 4.2

PROGRAMMING ENVIRONMENT

- HTML, XML
- CE .NET SDK
- Java, Visual C++
- Standard Protocol APIs
  - Windows Sockets (WinCE)

WIRELESS COMMUNICATIONS

- IEEE 802.11b 11 Mbps 2.4GHz Compact Flash radio external and internal antenna
- IEEE 802.11b/g 54Mbps 2.4 GHz CF radio - future
- IEEE 802.11b/g 54Mbps 2.4GHz PC card radio - future
- IEEE 802.11a/b/g 54Mbps 2.4GHz PC card radio - future
- Standard antenna integrated onto radio card
- Next Gen Narrowband 400-500MHz radio - future
- Bluetooth SDIO radio (5m range)

WIDE AREA APPLICATIONS

- GSM/GPRS PC Card radio - future
- CDMA - future

APPLICATION SOFTWARE

- Internet Explorer 6 for CE
- Open TekTerm
- ANSI, TESS terminal emulations (IBM 3270, IBM 5250, HP 2392)

USER INTERFACE

- Colour Display
  - 8525: 1/2 VGA 640x240 (8.8")
  - Transmissive TFT industrial for both indoor/sunlight readability
  - Embedded Memory Display contoller, resolution 16bpp.
  - CCFL Backlight, 220 cd/m² backlight with brightness control.
- Touchscreen
  - Passive stylus or finger operation
  - Rugged 5-wire technology
  - Enhanced anti-glare coating
- Keyboards
  - 3 integrated keyboard formats available
    - ABC (10 F-keys)
    - Qwerty (10 F-keys)
    - Azerty (10 F-keys)
  - 68 key PC like format
  - Blue/Green EL backlight
  - Ergonomic
  - Dedicated function keys
  - Epoxy coated elastomeric
- Indicators & Controls
  - Internal 95 dBA beeper w/ volume control
  - 4 indicators RX/TX, API, SCAN, PWR/CHG

RFID APPLICATIONS - FUTURE

- Long range 900 MHz PC Card RFID reader/writer - future
- Tethered reader/writers
- Multi-protocol support

INTERNAL EXPANSION SLOTS

- One SD I/O (MultiMediaCard) slot
- One Type II Compact Flash
- Two Type II/one Type III PCMCIA slot
- Convenient access to slots via sealed end cap

EXTERNAL PORTS

- One Tether Port with:
  - One RS232 serial port (decoded scanner, printer)
  - Undecoded scanner port
  - USB host port
- One Port with:
  - DB9 plug RS232 (optional +5V 500MA on pin 9)
- One Port with: High density socket.
  - One RS232 serial communication port
  - 1 USB device port
  - 2 USB host ports
  - Speaker/Mic connection (future)

SIZE AND WEIGHT

- Size: 11 3/4" W x 4 5/8" H x 11 1/2" L
- Weight: approximately 9.5 lbs
  - Includes standard battery, standard radio

ENVIRONMENTAL

- Standard:
  - Operating temp: -20°C to 60°C (-4° F to 140° F)
  - Storage temp: -35°C to +70°C (-31° F to 140° F)
  - Humidity: 5 - 95% RH non-condensing
- Freezer:
  - Operating temp: -30°C to +60°C (-22° F to 140° F)
  - Storage temp: -35°C to +70°C (-31° F to 140° F)
  - Humidity: 5 - 95% RH condensing with internal heating
- Rain/Dust: IEC 529, classification IP66
- 3 axis Vibration: 1.5g RMS PSD (4 – 500 Hz)
- 3 axis Shock 30g 11 ms saw tooth

POWER MANAGEMENT

- Internal Power supply 10-90VDC designed for forklift power.
- 12.6V Li-Ion standard 7530 battery for brown out.
- Advanced Smart Battery
- Runs off battery under brown out conditions, AC table adapter
- Built-in fast charger
- >1 week real-time clock backup

NETWORK MANAGEMENT - FUTURE

- SNMP MIB 2 support
- Remote software download
- Remote WLAN management

ACCESSORIES

- Multiple mounting options

APPROVALS:

- Safety: UL 60950 3rd Ed, CSA 60950-00, LVD EN 60950-1:2001
- EMC: FCC Part 15 Class B
- Complies with European R & TTE Directive

* Note this product will carry the CE Mark.

* Specifications subject to change without notice.

VCA 18-Nov-2004 UK APPROVAL AUTHORITY

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8525 Vehicle-Mount Computer

User Manual

October 18, 2004 Part No. 8000038.A

ISO 9001 Certified
Quality Management System

PSION TEKLOGIX

VCA
18-Nov-2004
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Return-To-Factory Warranty

Psion Teklogix warrants a return-to-factory warranty for a period of one year from shipment. The warranty on Psion Teklogix manufactured equipment does not extend to any product that has been tampered with, altered, or repaired by any person other than an employee of an authorized Psion Teklogix service organization. See Psion Teklogix terms and conditions of sale for full details.

Service

When requesting service, please provide information concerning the nature of the failure and the manner in which the equipment was used when the failure occurred. Type, model, and serial number should also be provided. Before returning any products to the factory, call the Customer Services Group for a Return Authorization number.

Support Services

Psion Teklogix provides a complete range of product support services to its customers. In North America, these services can be accessed through the Psion Teklogix Helpdesk. The Helpdesk coordinates repairs and training, helps you to troubleshoot problems over the phone and arranges for technicians or engineers to come to your site. For contact information and a listing of worldwide offices, please refer to *Appendix A: Support Services And Worldwide Offices*.

Disclaimer

Every effort has been made to make this material complete, accurate and up-to-date. Teklogix Inc. reserves the right to make changes without notice and shall not be held responsible for damages resulting from reliance on the material presented in this manual.

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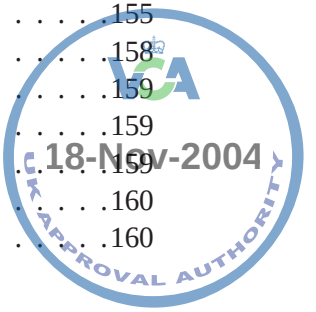

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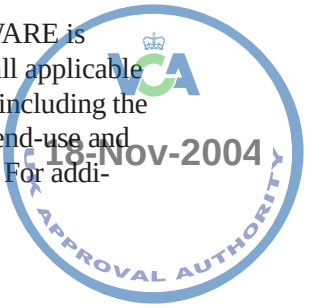

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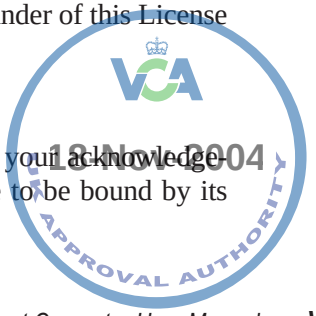

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Meetinghouse Data Communications, Inc.
150 Greenleaf Avenue, Unit F
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Revised 8/12/2002

Approvals And Safety Summary

Declaration Of Conformity

Product:	**8525 Vehicle-Mount Computer**
Application of Council Directive(s):	EMC Directive: 89/336/EEC Low Voltage Directive: 73/23/EEC
Conformity Declared to Standards:	EN 55022: 1998 + Am 1, Class B; EN 61000-3-2; EN 61000-3-3 EN 55024:1998; EN 61000-4-2; ±4kV CD; ±8kV AD EN 61000-4-2; ±4kV CD; ±8kV AD EN 61000-4-3; 3V/m, 80-1000 MHz EN 61000-4-4; ±1kV Power lines EN 61000-4-5; ±1kV Differential mode EN 61000-4-6; 3VRMS, 150kHz-80MHz EN 61000-4-11; AC Mains Ports
Manufacturer:	PSION TEKLOGIX INC. 2100 Meadowvale Boulevard Mississauga, Ontario, Canada L5N 7J9
Year of Manufacture:	2003
Manufacturer's Address in the European Community:	PSION TEKLOGIX S.A. La Duranne; 135 Rue Rene Descartes; BP 421000 13591 Aix-En-Provence Cedex 3; France
Type of Equipment:	Information Technology Equipment
Equipment Class:	Commercial and Light Industrial

I the undersigned hereby declare that the equipment specified above conforms to the above directives and standards.

Manufacturer:	Rob Williams Vice President of Engineering Psion Teklogix Inc. Ontario
Legal Representative	Domique Binckly Vice President International Sales Psion Teklogix S.A. France

This equipment complies with Class B Part 15 of the FCC rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Psion Teklogix, the party responsible for compliance, may void the user's authority to operate the equipment.

1. FCC Information to Users

For Class B Unintentional Radiators:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

2. Warning to Users

Warning: **Changes or modifications not expressly approved by Psion Teklogix Inc. could void the user's authority to operate the equipment.**

RF Exposure

Warning: **To satisfy FCC RF exposure requirements for vehicle mount transmitting devices, a separation distance of 20 cms should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.**

Do Not Remove Covers Or Open Enclosures

To avoid injury, the equipment covers and enclosures should only be removed by qualified service personnel. Do not operate the equipment without the covers and enclosures properly installed.

Caution

Use of the Vehicle Mount Computer while charging the fork truck battery is prohibited.

Caution

Use of additional wiring and attachments not recommended or sold by the manufacturer may result in fire, electric shock or personal injury.

Caution

If using an AC adaptor, use only the AC adaptor recommended by manufacturer.

Caution

Do not operate the vehicle-mount computer with a damaged cord or plug. Replace immediately.

Caution

Make sure the cord is positioned so that it is not stepped on, tripped over or otherwise subjected to damage or stress.

CAUTION

An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock.

CAUTION

To reduce risk of electric shock, unplug the vehicle-mount computer from the DC source before attempting any maintenance or cleaning.

Warning: **Physically disconnect the 8525 from the vehicle battery during battery charging (into AC outlet).**

1 INTRODUCTION

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1.2 Text Conventions 4
1.3 About The 8525 Vehicle-Mount Computer 5
1.3.1 Features 5
1.3.2 The 8525 Vehicle-Mount Computer 8
1.3.4 Regulatory Labels 9

1.1 About This Manual

This manual describes how to configure, operate and maintain the Psion Teklogix 8525 vehicle-mount computer.

Chapter 1: Introduction
provides a basic overview of the 8525 vehicle-mount.

Chapter 2: Basic Checkout
describes the steps required to get the 8525 ready for operation.

Chapter 3: Getting To Know Your 8525
describes the 8525 features and provides a description of the keyboard, how to navigate in Microsoft® Windows® CE, and so on.

Chapter 4: Working With Windows CE .NET
describes the Microsoft® Windows® CE desktop and how to use it. This chapter also outlines the basics of moving around a Windows CE .NET window, selecting and opening icons, files, folders and working with a Windows dialogue box.

Chapter 5: Configuration
provides a description of the Windows CE .NET Control Panel and how to use it to configure the 8525, along with the scanners attached to the unit, and so on.

Chapter 6: Tekterm Application
describes TESS and ANSI operations. This chapter also provides descriptions of the Tekterm parameters.

Chapter 7: Peripheral Devices & Accessories
describes the peripherals and accessories available for your 8525.

Chapter 8: Specifications
details radio, vehicle-mount computer and battery specifications.

Appendix A: Support Services And Worldwide Offices
provides the helpdesk phone number at the Mississauga, Ontario, Canada office and details the support services available. This appendix also lists the world-wide office addresses and phone numbers.

Appendix B: Port Pinouts
includes 8525 pinouts.

Appendix C: USB Setup Application
describes the USB application.

1.2 Text Conventions

Note: *Notes highlight additional helpful information.*

Important: ***These statements provide particularly important instructions or additional information that is critical to the operation of the equipment.***

Warning: ***These statements provide critical information that may prevent physical injury, equipment damage or data loss.***

1.3 About The 8525 Vehicle-Mount Computer

The 8525 is a ruggedized vehicle-mount computer, running the Microsoft® Windows CE .NET operating system. It is intended for use in commercial and light industrial applications with a focus on real time wireless data transactions. All possible bar code input methodologies are supported by a variety of scanners available.

1.3.1 Features

- Processor And Memory:
  - 400MHz ARM RISC (400 MIPS).
  - 32KB instruction/32KB data cache
  - on-board RAM: 128mByte SDRAM
  - on-board ROM: 64 MByte FLASH.
- Operating System
  - Windows CE .NET 4.2
- Wireless Communication:.
  - IEEE 802.11b 11 Mbps 2.4 GHz Compact Flash radio external and internal antenna
  - IEEE 802.11b 11 Mbps 2.4 GHz external antenna PC Card Slot radio
  - standard antenna integrated onto radio card
  - *Future radio additions*:
    - IEEE 802.11g 22Mbps 2.4GHz Compact Flash radio
    - IEEE 802.11a 54Mbps 5 GHz Compact Flash radio
    - IEEE 802.11a 54Mbps 5 GHz PC Card radio
    - NextGen Narrowband 400-500 MHz radio
  - GSM/GPRS PC Card radio *(for future release)*
  - Bluetooth SD I/O radio 2.4 GHz (5m range)
- Application Software
  - Internet Explorer 6 for CE
  - Open Tekterm
  - ANSI, TESS terminal emulations (IBM 3270, IBM 5250, HP 2392)
- User Interface

- Colour display
  - 1/2VGA 640x240 Transmissive TFT industrial
  - temp: -30˚ C to 85˚ C
  - 8.8 inch, 18 bit
  - Sunlight readable
  - Embedded Memory Display controller, resolution 16bpp
- Touchscreen
  - passive stylus or finger operation
  - signature capture
- Keyboards
  - 3 integrated keyboard formats:
    - ABC (10 Function Keys)
    - Qwerty (10 Function Keys)
    - Azerty (10 Function Keys)
  - 68 key PC like format
  - green EL backlight
  - ergonomic
  - dedicated function keys

- Indicators and Controls
  - internal 95 dBA beeper with volume control
  - 4 indicators: RX/TX, API, SCAN, PWR/CHG
- RFID Applications *(for future release)*
  - tethered readers/writers
  - *Future addition*:
    - long range 900 MHz PC card RFID reader/writer
    - multi-protocol support
- Internal Expansion Slots
  - one SD I/O (Multimedia Card) slot
  - one Type II Compact Flash
  - two Type II/one Type III PCMCIA slot(s)

  - easy access to slots via sealed end cap
- External Ports
  - One Tether port with:
    - one RS232 serial port (decoded scanner, printer)
    - undecoded scanner port
    - USB host port
  - One Port with:
    - DB9 plug RS232
  - One Port with: High density socket
    - one RS232 serial comm. port
    - 1 USB device port
    - 2 USB host ports
- Power Management
  - Internal power supply 10-90VDC designed for forklift power
  - 12.6V Li-Ion standard battery for brown-out
  - Advance Smart Battery
  - Built-in fast charger
  - 1 week real-time clock backup
- SNMP MIB 2 support *(for future release)*
- Remote software download
- Remote WLAN management

1.3.2 The 8525 Vehicle-Mount Computer

Figure 1.1 8525 With Qwerty Keyboard

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1.3.3 8525 Ports

Figure 1.2 Ports

1.3.4 Regulatory Labels

Warning: ***Using controls or adjustments or performing procedures other than those specified herein may result in hazardous radiation exposure.***

PSION Teklogix Inc. This product contains,
Psion Teklogix Model: RA2020
FCC ID: GM3RA2020M IC: 2739D-RA2020
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
N553
FC
FOR HOME OR OFFICE USE
00148A

Figure 1.3 FCC Label

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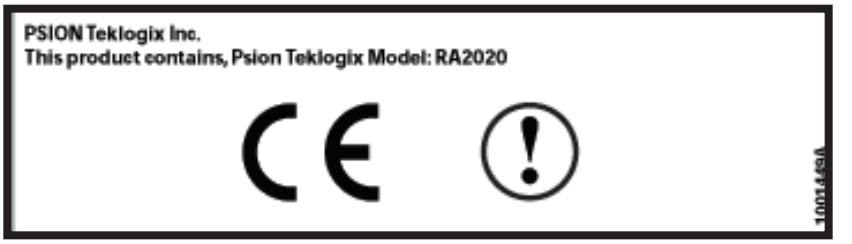

Figure 1.4 RA2020 Label, EU

Figure 1.5 RA2020 & SD-BT2 Label, FCC/IC/Australia/New Zealand

Figure 1.6 RA2020 & SD-BT2 Label, EU

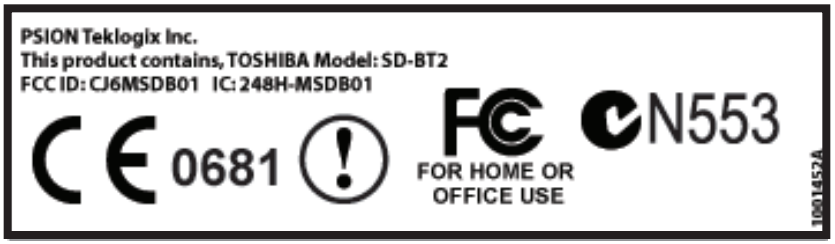

Figure 1.7 SD-BT2 Label, EU/FCC/IC/Australia/New Zealand

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Basic Checkout 2

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2.1 Preparing The 8525 For Operation

Typically, 8525 vehicle-mounts are configured at the factory and arrive ready for use. Although the 8525 is equipped with an internal Compact Flash, a PCMCIA slot and SD I/O slot, these slots are not intended for user modification. If a device needs to be changed or added in these slots, contact qualified Psion Teklogix personnel. Refer to *Appendix A: Support Services And Worldwide Offices* for the service number closest to you.

2.2 Powering Up The 8525 And Configuring The Radio

2.2.1 Switching The 8525 On

To switch the 8525 on:

- Press the <ENTER/ON> key.

A splash screen displaying the *Psion Teklogix* logo and the Windows CE .NET logo appears. When Windows® CE has successfully loaded, the startup desktop is displayed.

Note: *The screen may go blank for a few seconds after the splash screen loading bar reaches the end. This is part of the normal Windows CE .NET cold boot process. The desktop is displayed after a few moments.*

2.2.2 Configuring An IEEE 802.11 Radio Installed In The 8525

The most common 802.11b settings are configured as defaults. However, there are some fields that must be completed, including the SSID of your access point and the security methods implemented in the network (including access keys).

Important: ***If the 8525 is equipped with a radio that has never been configured, the radio settings dialogue box opens automatically when the unit is powered on. In this case, skip to Step 4 on page 17.***

To configure the 802.11b radio:

1. Tap on the Windows® **Start** button in the taskbar, and tap on `Settings>`**Network and Dial-up Connections**.

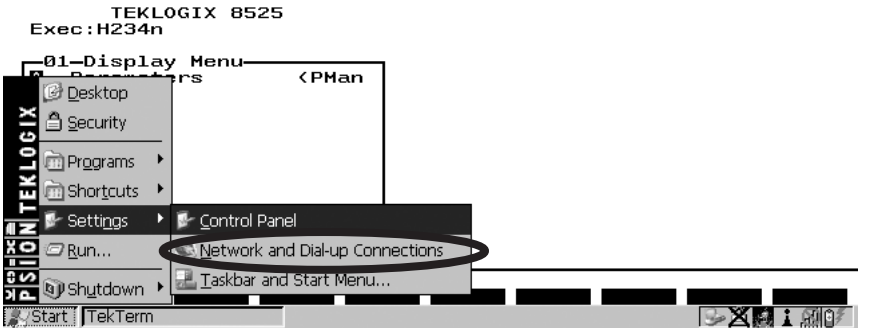

Figure 2.1 Network And Dial-Up Connections

Note: *You can also press <CTRL> <ESC> to display the Start Menu.*

2. Choose the radio icon to open the **Wireless LAN Settings** window – in the sample screen below, this is labelled **PTXWLAG**.

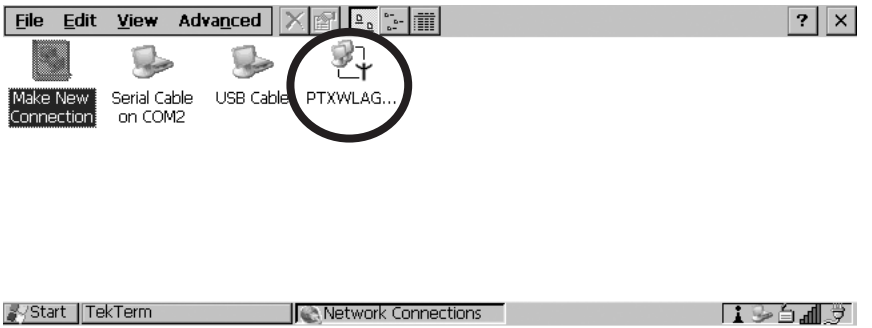

Figure 2.2 Wireless Settings Window

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3. Wireless Statistics Tab
   When you choose the Wireless LAN icon, a Wireless Statistics window is displayed.

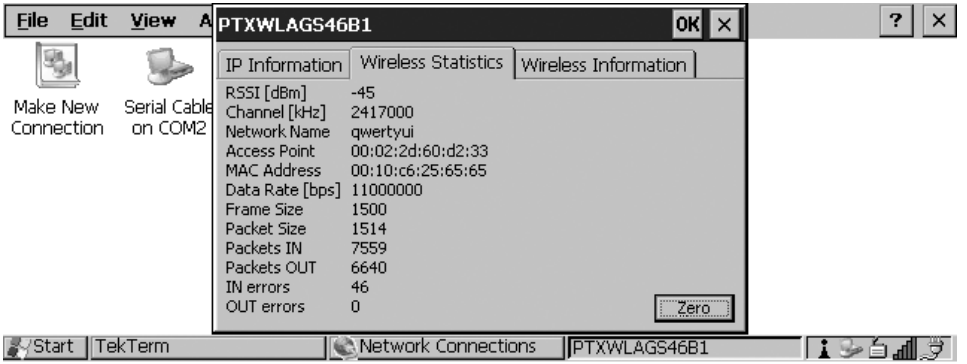

Figure 2.3 Wireless Statistics

This tab lists your radio statistics. Choosing the Zero button resets the statistics of the last four items – Packets IN, Packets OUT, IN errors and OUT errors.

- Tap the stylus on the Wireless Information tab.

4. Wireless Information Tab

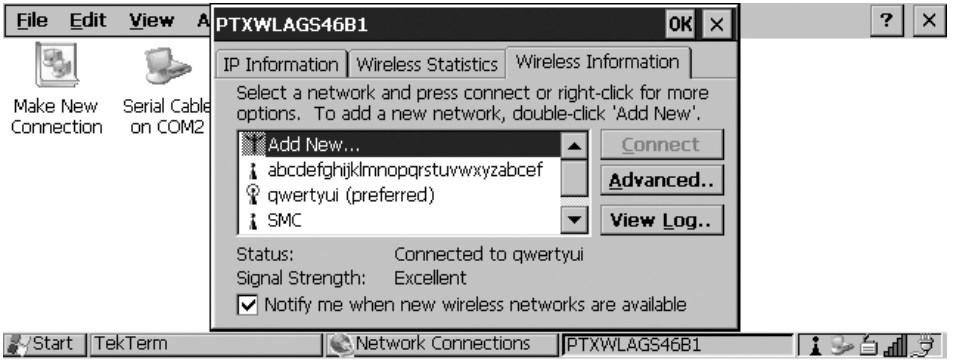

Figure 2.4 Wireless Information Tab

This tab display existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.

Note: *Connect button – To force connection to a specific, **existing network**, highlight the network to which you want your 8525 to connect, and tap the Connect button.*

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This tab lists *available* networks – any access points that are broadcasting an SSID, and it lists *preferred* networks – networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, the 8525 attempts to connect to preferred networks. This behaviour can be changed by enabling (√) 'Automatically connect to non-preferred networks' in the Advanced dialogue box (page 23).

- To add a new configuration, double-tap on the Add New... item listed with the networks. A blank Wireless Properties dialogue box is displayed.

5. Wireless Properties

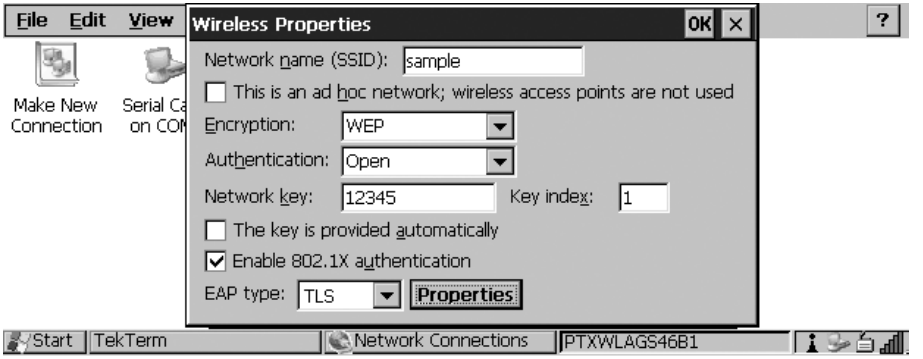

Figure 2.5 Wireless Properties Dialogue Box

Network name (SSID):

- Type the appropriate SSID (Service Set Identifier) in the 'Network name (SSID):' text entry field at the top of this dialogue box.

The Network name field can contain a maximum of 32 characters. The name assigned here is listed as a *preferred* network.

Important: ***Keep in mind that the 8525 will only communicate with access points that are configured with the same SSID.***

Ad Hoc And Infrastructure

If you are using an "Infrastructure" network – one in which 8525s must pass data through an access point – leave the checkbox next to 'This is an ad hoc network' ***blank***.

If you are using an "Ad Hoc" network – a network in which 8525s pass data ***directly*** to other 8525s without an access point – tap on the checkbox next to 'This is an ad hoc network' to enable (√) Ad Hoc.

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Encryption

WEP (Wired-Equivalent Privacy) encryption prevents others from accidentally accessing your network. If you are ***not*** using encryption, you can choose 'Disabled' from the dropdown encryption menu. Otherwise, leave this field as is.

Authentication

802.11 supports a number of subtypes of network authentication services: **Open**, **Shared**, **WPA** and **WPA-PSK**.

Using **Open** authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then sends back a frame that indicates whether it recognizes the identity of the sending station.

Using **Shared** authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

WPA (Wi-Fi Protected Access) uses the Temporal Key Integrity Protocol (TKIP) to provide strong data encryption, and offers two user authentication and key management methods.

The first method of user authentication is intended for environments using a centralized Authentication Server, such as RADIUS. User authentication is based on IEEE 802.1X and mutual authentication based EAP.

In environments where a centralized Authentication Server or EAP framework is *not* available, user authentication is based on a 'Pre-Shared Key' method – **WPA-PSK**. If you are using Pre-Shared Key authentication, you will need to manually enter a password (Master Key) in the Access Point or Wireless Router and enter the same password in each client device that accesses the wireless network. The manually configured **WPA** password (Master Key) automatically starts the TKIP data encryption process.

Network Key:
This text box is used to specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

- To assign a **Network key**, tap the stylus in the checkbox next to '**The key is provided automatically**' to remove the check mark (√) ***disabling*** this option.

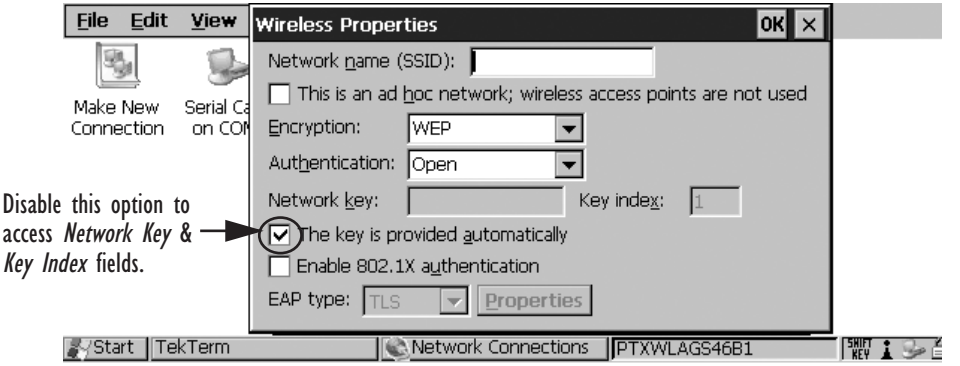

Figure 2.6 Accessing Network Key And Key Index

Key Index:
This field is used to identify the WEP key.

- Enter a value from 1 to 4.

Enable 802.1x authentication
"802.1X" is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an "EAP" is used in conjunction with the "802.1x" standard to authenticate users at the MAC layer. Available EAPs are listed in the dropdown menu next to the '**EAP**' option.

- To activate "802.1X", tap on the checkbox next to '**Enable 802.1x authentication**', and press the <SPACE> key to enable (√) it.

EAP Type (Extensible Authentication Protocol):
This dropdown menu lists the EAP types available on your system. The items in this dropdown menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select

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a 'Certificate'. By selecting the **Properties** button, you will be able to select a Certificate. "Certificate Assignment" on page 84 provides a website that outlines how to create certificates for your network.

6. Saving and exiting the radio setup.
   Once you have completed your configuration, press <ENTER> or tap on **OK**.

The connection you created will be listed in the **Wireless Information** tab as a preferred network. The radio will search for the SSID and will compare the WEP and authentication information you specified. If there is a match between your 8525 settings and the access point settings, the 8525 will communicate on the network through the access point.

2.2.3 Assigning An IP Address

If your network is ***not*** using a DHCP server, you will need to assign an IP address.

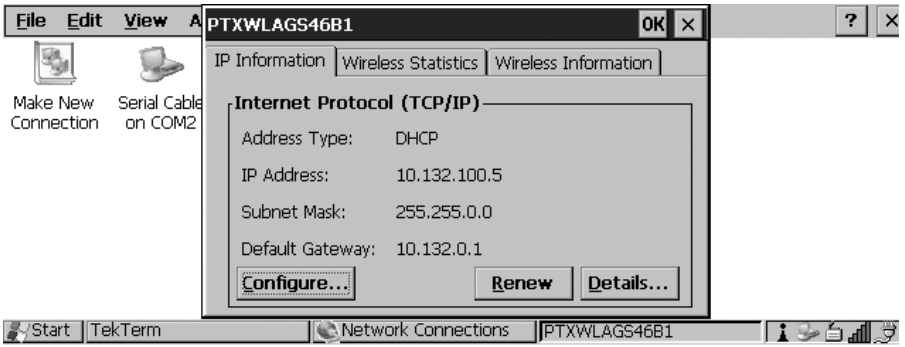

Figure 2.7 Configuring An IP Address

Note: *Choosing the* **Renew** *button forces the 8525 to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your 8525 is dropped from the network.*

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To define a static IP address:

- Tap the **Configure...** button.

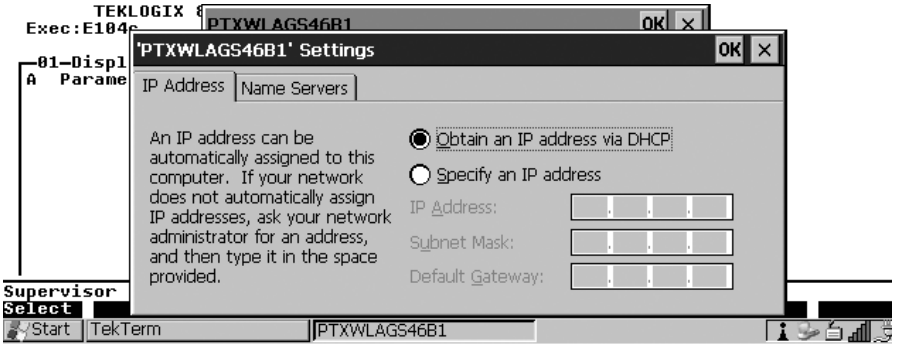
'PTXWLAGS46B1' Settings
OK
IP Address
Name Servers
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space provided.
Obtain an IP address via DHCP
Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Start
TekTerm
PTXWLAGS46B1

Figure 2.8 Defining An IP Address

- Tap on the radio button next to **Specify an IP address.**
- Tap on each field, and type an **IP, Subnet Mask** and **Default Gateway** address. Tap on **OK** to save your information.

2.2.4 Name Servers Tab

Note: ***If DHCP is enabled****, name server addresses are assigned automatically.*

- In the **IP Information** tab, tap on the **Configure...** button. ("Figure 2.8" on page 22 is the window from which you choose the **Configure...** button.)
- Tap on the **Name Servers** tab.

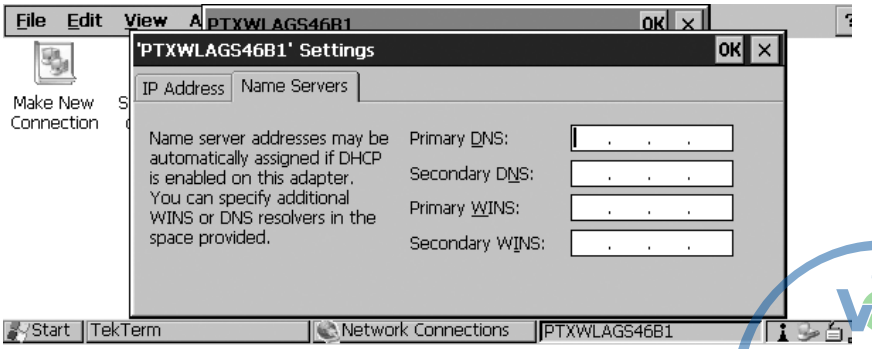

Figure 2.9 Name Servers Tab

The DNS and WINS fields in the **Name Servers** tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

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2.2.5 Advanced Features

To display the **Advanced Wireless Settings** dialogue box:

- Tap the **Advanced...** button in the Wireless Information tab.

This window lists the available preferred networks.

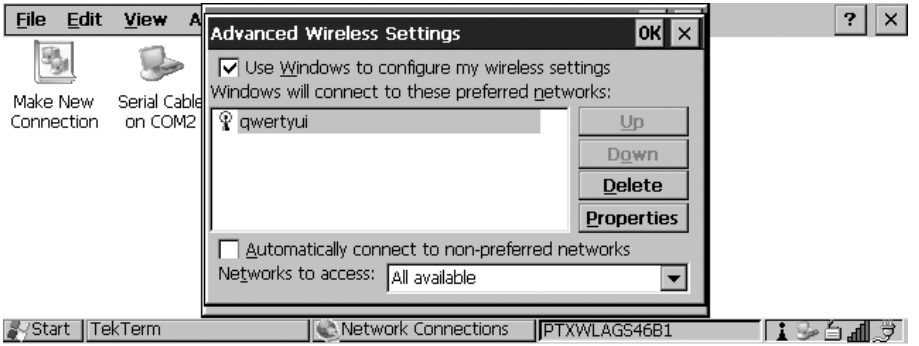

Figure 2.10 Advanced Settings

2.2.5.1 Rearranging Preferred Networks

The 8525 attempts to connect with the networks listed in this dialogue box *in sequence, beginning at the top of the list*. If you need to rearrange this list of networks – move networks up and down in the list:

- In the networks list, tap on the network you want to move up or down in the list.
- To move the highlighted item upward or downward in the list, tap the **Up** or **Down** button, and press <ENTER>.

2.2.5.2 Deleting A Preferred Network

To delete a network from this list:

- Tap on the network in the list to highlight it.
- Tap the **Delete** button, and press <ENTER>.

2.2.5.3 Changing Network Properties

To change the properties of an existing preferred network:

- Highlight the network that you want to modify.
- Tap the Properties button, and press <ENTER>.
- Make any necessary changes in the Wireless Properties dialogue box, and press <ENTER> to save the changes.

2.3 Calibrating The Touchscreen

Before using your 8525, you will need to calibrate the touchscreen. Refer to "Calibrating The Touchscreen" on page 32 for details.

2.4 Resetting The 8525 Vehicle-Mount

Important: ***Because Psion Teklogix cannot guarantee what has been saved (registry) after a reset, this should be considered as a last resort.***

To reset the 8525:

- Press and hold down the <BLUE> key and the <ENTER/ON> key simultaneously for a minimum of six seconds.

A reset results in a complete reboot of the unit. All RAM memory contents are lost. While it is most likely that the contents of the flash memory and memory card will be preserved, Psion Teklogix cannot guarantee this. When the 8525 is reset, the screen displays the Psion Teklogix and Microsoft® Windows® CE. NET splash screen before displaying the startup desktop.

Note: *You do not need to reset your 8525 after configuring the radio.*

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3.1 Features Of The 8525

Inside The Radio Dome

- SDIO/MMC Slot – for Bluetooth radio or additional storage memory
- PCMCIA slot - supports 2-Type II PCMCIA or 1-Type III PCMCIA card
- Compact Flash slot - for 802.11b radios or additional storage memory

Figure 3.1 Front Of 8525

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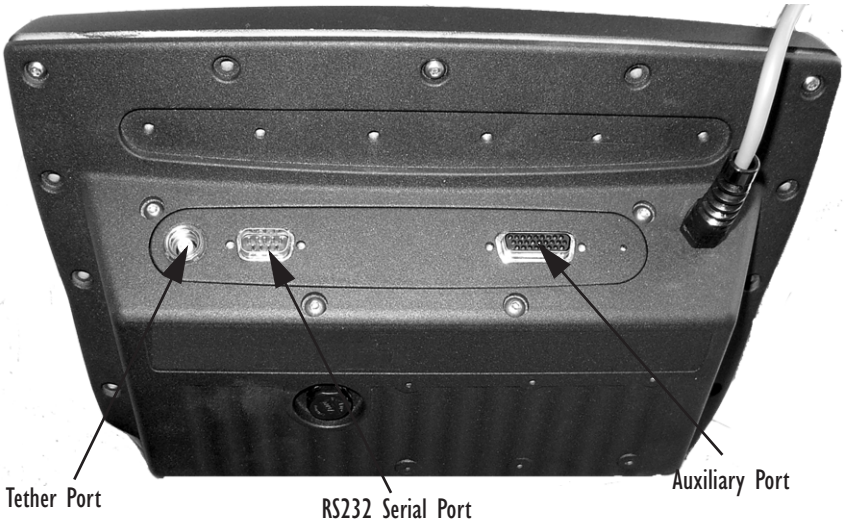

Figure 3.2 Ports

3.2 The Internal Backup Battery

The 8525 vehicle-mount is equipped with an internal battery that will provide backup power to the unit for up to fifteen minutes of normal operation. After 15 minutes, the unit will shut off to preserve the contents of RAM.

The backup battery is not user accessible. It must be replaced by authorized Psion Teklogix personnel.

3.3 Switching The 8525 Vehicle-Mount On And Off

Switching On The 8525

- Press the <ENTER/ON> key.
- When all four LEDs flash orange, release the <ENTER/ON> button.

A splash screen displaying the *Psion Teklogix* logo and the *Microsoft® Windows CE. NET* logo appears followed by the startup desktop.

Note: *If the 8525 is in suspend state, pressing <ENTER/ON> key 'wakes' the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.*

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Switching Off The 8525

Important: ***Keep in mind that turning off the 8525 does not result in a complete reboot; rather, the unit enters a power-saving, "suspend" state. When the 8525 is turned on from suspend state, operation resumes within a few seconds.***

To switch off the 8525:

- Press the <BLUE> key, and then press the <ENTER/ON> key.

Important: ***If the word 'BLUE' is displayed in uppercase in the taskbar area at the bottom of the screen, this key is locked "on" – the 8525 will not switch off. Press the <BLUE> key again to unlock it; then press <BLUE> <ENTER/ON> to switch the 8525 off.***

If, however, you've disabled the "Blue Key" in the 'One Shot' dialogue box (see "Keyboard One Shot Modes" on page 72), the 8525 can be turned off even when the <BLUE> key is locked 'on'.

3.4 The Keyboard

The 8525 offers three keyboard layouts – Qwerty, ABC and Azerty. Most of the keys on these keyboards operate much like a desktop computer. Where a key or key function is not consistent with the PC keyboard, the differences are noted.

3.4.1 Modifier Keys

The <SHIFT>, <CTRL>, <ALT>, <BLUE> and <ORANGE> keys are *modifier* keys. Pressing a modifier key changes the function of the next key pressed. For example, a square bracket is printed in *orange* print above the <4> key. Pressing the <ORANGE> key followed by the <4> key displays a square bracket rather than the number 4.

The <SHIFT>, <CTRL> and <ALT> keys operate much like a desktop keyboard except that they are not chorded (two keys held down simultaneously). The modifier key must be pressed first followed by the key whose function you want modified.

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3.4.1.1 Activating Modifier Keys

When a modifier key is pressed once, it is displayed in lowercase letters in the taskbar at the bottom of the 8525 screen. For example, if the <CTRL> key is pressed, ctrl key is displayed at the bottom of the unit screen. Once another key is pressed, the modifier key becomes inactive and disappears from the taskbar.

3.4.1.2 Locking Modifier Keys

When a modifier key is pressed twice, it is 'locked' on. A 'locked' modifier key is displayed in uppercase letters in the taskbar. For example, pressing the <BLUE> key twice locks it on – it is displayed as BLUE KEY in the taskbar at the bottom of the computer screen.

The locked modifier key will remain active until it is pressed a third time to unlock or turn it off. Once a modifier key is unlocked (pressed a third time), the uppercase representation at the bottom of the screen is no longer displayed.

Note: *The locking function of the <ORANGE> and <BLUE> keys can be disabled so that pressing either of these keys* ***once*** *will lock the keys 'on'. If you disable the 'One Shot' function of either of these keys, pressing the <BLUE> and/or <ORANGE> key once will lock the key 'on'. Pressing the same key a second time will unlock or turn it 'off'. Refer to "Keyboard One Shot Modes" on page 72 for details.*

3.4.2 The Keys

The <BLUE> And <ORANGE> Keys

The <BLUE> and <ORANGE> modifier keys provide access to additional symbols and keys. These additional symbols and keys are colour coded in *blue* and *orange* print above the keyboard keys.

Press the <BLUE> key to access functions or characters displayed in *blue* print on the keyboard. Press the <ORANGE> key to access functions or characters displayed in *orange* print on the keyboard.

The <SHIFT/CAPS> Key

The <SHIFT/CAPS> key is used to display uppercase alpha characters. Pressing <BLUE><SHIFT> turns the <CAPS> key on so that all alpha characters are printed in uppercase until the <BLUE><SHIFT> sequence is pressed again.

The Arrow Keys

The Arrow keys move the cursor around the screen in the direction of the arrow – up, down, left and right. The cursor is the flashing box or underline character that indicates where the next character you type will appear.

The <INS> Key

The <INS> key inserts a character at the cursor position.

The <DEL> Key

The <DEL> key erases the character at the cursor position.

The <BKSP> Key

The <BKSP> key (sometimes referred to as destructive backspace) moves the cursor one character to the left, erasing the incorrectly entered key stroke.

The <CTRL> And <ALT> Key

The <CTRL> and <ALT> keys modify the function of the next key pressed and are application dependent.

The <TAB> Key

Typically, the <TAB> key moves the cursor to the next field to the right or downward.

The <ESC> Key

Generally, this key is used as a keyboard shortcut to close the current menu, dialogue box or activity and return to the previous one.

The <SPACE> Key

Pressing this key inserts a blank space between characters. In a Windows dialogue box, pressing the <SPACE> key enables (√) or disables a checkbox.

The <HOME> Key

The <HOME> key moves the cursor to the top of the form or page.

The <END> Key

The <END> key moves the cursor to the bottom of the form or page.

The <PgUp> And <PgDn> Keys

The <PgUp> key displays the previous screen of information. The <PgDn> key displays the next screen of information.

Function Keys And Macro Keys

In addition to alphanumeric keys that are directly accessible on the keyboard (no key combination is required) and the keys described in this chapter, the 8525 keyboard is also equipped with thirty function keys and twelve macro keys.

Function keys <F1> through <F30> and Macro keys <M1> to <M12> can be used with the CE operating system or another application. All function keys and macro keys can be custom defined for each application. The Tekterm application utilizes these keys. Refer to “Additional Keyboard Functions” on page 133 for details.

3.4.3 The Keypad Backlight

The intensity of the keypad backlight and the conditions under which this backlight is activated can be configured using the Keyboard icon in the Windows CE .NET Control Panel. The behaviour of the keypad backlight is tailored in the Keyboard Properties dialogue box.

Note: *Refer to* ***“Keyboard Backlight” on page 72*** *for details about this option. Keep in mind that this option may be restricted to supervisory use only.*

3.5 The Display

8525s are equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed. The backlight intensity and the duration of time that the backlight will remain at full intensity can be specified in the Display Properties dialogue box in the Windows CE .NET Control Panel.

Note: ***Refer to “Display Backlight” on page 69*** *for details about the Display Properties dialogue box.*

3.5.1 Calibrating The Touchscreen

If your 8525 touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, use the Stylus Properties dialogue box in the Windows CE .NET Control Panel to recalibrate the screen.

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- In the Control Panel, choose the Stylus icon to display the Stylus Properties window.

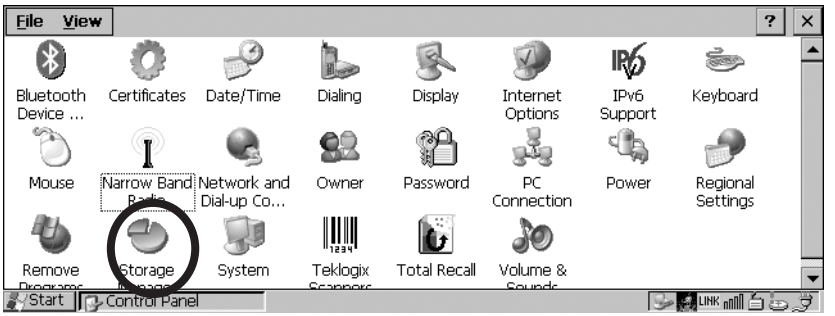

Figure 3.3 Stylus Icon

- Select the Calibration tab, and then tap on the 'Recalibrate' button.

Figure 3.4 Calibration Screen

- Follow the directions on the calibration screen to calibrate the screen.

3.6 8525 Indicators

8525s use LEDs (Light Emitting Diode), onscreen messages and audio tones as indicators.

3.6.1 LEDs

The 8525 is equipped with four tri-coloured LEDs. This section outlines what these LEDs indicate.

Important: ***If an LED is illuminated in red, the operator should be cautious as this generally indicates an abnormal operating condition or active laser emission.***

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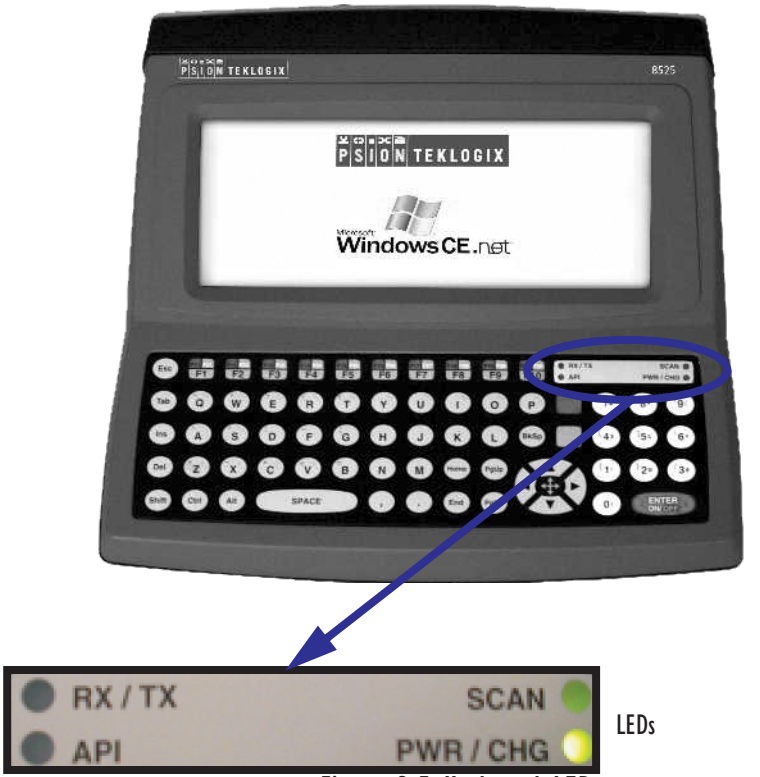

Figure 3.5 Keyboard LEDs

3.6.1.1 PWR/CHG – Charge LED

The lower-right LED is reserved for internal charger/power status. This LED turns solid green when the unit is receiving AC power. A blinking green LED indicates that the unit is taking power from the backup battery.

3.6.1.2 RX/TX – Radio Traffic LED

The upper-left LED on your 8525 flashes either orange or green to indicate when the radio transmits and receives data.

Note: *Keep in mind that while the standard 802.11b radio supports the transmit/receive LED, not all radios support this function.*

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Function	Radio Traffic LED Behaviour
Radio Transmit	LED flashes orange.
Radio Receive	LED flashes green.

Table 3.1 Transmit and Receive LEDs

3.6.1.3 Scan LED

Successful scans are indicated in two ways – with a scan LED and with an audio tone.

Function	Scan LED Behaviour
Scan in progress	LED displays solid red during scan.
Successful scan	LED displays solid green after decode. Off when scan ended.
Unsuccessful scan	LED flashes red.

Table 3.2 Scan LED

3.6.1.4 API – User Application LED

This indicator is available for user-loaded custom Windows CE .NET applications. Refer to the *8525 SDK Manual* for details about this LED. Neither Windows CE .NET nor Tekterm use this LED.

3.6.2 Onscreen Indicators

The taskbar at the bottom of the screen displays a variety of system status indicators.

Figure 3.6 Taskbar

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This display changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your 8525, the radio signal icon is not displayed in the taskbar.

Windows Start Button

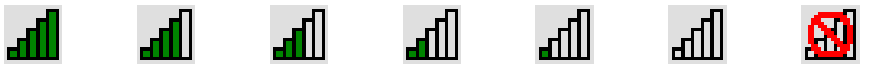
You can display the Start Menu by tapping on the Windows® Start button in the taskbar.

Modifier Key Indicators

<SHIFT>, <CTRL>, <ALT>, <BLUE> and <ORANGE> are modifier keys that have onscreen indicators to show when a key is active or locked. If a modifier key is pressed once to activate it, the key is displayed in the taskbar in *lowercase* characters – for example, pressing the <BLUE> key once displays blue key in the taskbar. If a modifier key is pressed twice, it is 'locked on' and the onscreen indicator is displayed in *uppercase* letters in the taskbar – for example, pressing <BLUE> twice displays BLUE KEY in the taskbar.

802.11 Radio Signal Quality

Increasing radio signal quality is represented by longer, filled bars within this icon.



Narrow Band Radio Signal Quality

Increasing radio signal quality is represented by longer, filled bars within this icon.

The radio signal is now determined when the 8525 receives a message. If the unit receives no messages within a second, the "no signal" icon is displayed. The signal strength icon shows the following cases: "No signal", "1%to 25% bar", "26% to 50% bar", "51% to 75% bar" and "75% to 100% bar".

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Link Status

The Narrow Band radio has three link state icons displayed in the taskbar. An uppercase `'LINK'` with a green background indicates the radio is powered on and that the unit is online and locked onto a channel. A lowercase `'Link'` with a yellow background indicates that the radio is powered on but the 8525 is not online or not locked onto a channel. A lowercase `'Link'` with a yellow background and a red `'X'` through it indicates that the radio is *not* powered on, is *not* online and is *not* locked onto a channel.

Bluetooth Radio

If a Bluetooth radio is installed in your 8525, this icon is displayed in the taskbar.

Security Level

Security levels can be set to limit user access to 8525 settings. In addition, applications can be restricted to prevent inadvertent changes.

AC Power Icon

This AC icon is displayed in the taskbar when the unit is using AC power.

3.6.3 Audio Indicators

The 8525 beeper provides a variety of sounds and can be configured to emit a sound when a key is pressed, a keyboard character is rejected, scan input is accepted or rejected or an operator's entry does not match in a match field.

Note: *Refer to* ***"Volume And Sound Properties" on page 79*** *for details about the Volume & Sound Properties dialogue box.*

3.7 Scanning

The scanner used with your unit is configured using the Scanner Properties dialogue box in the Control Panel.

Note: *Refer to* ***"Scanner Properties Setup" on page 114*** *for details.*

The 8525 supports a variety of scanners one dimensional (1D) laser scanners,

"Scanning Techniques" outlines the mechanics of a successful scan. In addition, review "Scan LED Indicators" on page 38 to better understand how to interpret whether or not a bar code has been successfully scanned. Finally, "Troubleshooting" on page 39 provides some helpful suggestions should the scan fail.

3.7.1 Scanning Techniques

Note: *External scanners can only be connected to the 8525 tether port.*

- Hold the scanner at an angle. Do not hold it perpendicular to the bar code.
- Do *not* hold the scanner directly over the bar code. In this position, light can reflect back into the scanner's exit window and prevent a successful decode.
- Scan the entire bar code. Make certain that the scan beam crosses every bar and space on the bar code, including the margins on either end of the symbol.
- Hold the scanner farther away for larger bar codes.
- Hold the scanner closer for bar codes with bars that are close together.

3.7.2 Scan LED Indicators

The 8525 scanner LED (the upper-right LED) indicates whether or not your scan is successful. The LED behaves as follows:

- Scan In Progress: scan LED displays solid red colour.
- Successful Scan: scan LED displays solid green colour and turns off when the scan is ended.
- Unsuccessful scan: scan LED flashes red.

A bar code icon appears on the screen during a scan. While the scanner beam is active, the onscreen message states – SCANNING. If the scan is successful, the bar code data is displayed on the screen until the scan trigger is released.

3.7.3 Troubleshooting

If the scanner is not working, investigate the following:

- Is the 8525 on?
- Check that the bar code symbology being scanned is enabled for the 8525 you are using. Check any other parameters that affect the scanning procedure or the bar code.
- Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.
- Check that the bar code is within the proper range.
- Does the vehicle-mount display the warning without scanning? This suggests a hardware problem in the 8525.
- Is the laser beam scanning across the bar code?
- Once the scan beam has stopped, check the scanner window for dirt or fogging.

3.7.4 Operating One Dimensional (1D) Laser Scanners

- Turn the 8525 on. Wait until the unit has booted up completely.

Important: ***If an aiming dot is available on the scanner, the dot will be enabled for a configurable time period (including off), after which normal scanning begins. Refer to "Dot Time (msec)" on page 116 for details.***

Double-clicking the trigger will override the aiming delay and initiate an immediate scan. Note that the aiming dot is standard on long-range and high visibility internal scanners.

- Aim at the bar code and press the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

3.8 Connecting & Disconnecting Tethered Peripherals

Tethered peripherals such as scanners and printers connect to the vehicle-mount computer with a quick release, circular connector. When a peripheral is connected to the vehicle-mount, the 8525 detects the peripheral and loads the necessary drivers for it. An icon in the taskbar at the bottom of the screen provides a visual representation of the peripheral and indicates that it is ready for operation.

To attach the peripheral to the round, tether port on the side of the 8525:

- Insert the barrel of the plug into the tether port and rotate slowly until it clicks into place. The red dot on the port and on the connector should be aligned.

Figure 3.7 The Tether Port

To remove the peripheral:

- Grasp the *shell* of the plug, and pull it back gently to unlock and release the connector.

Important: ***Never attempt to disconnect a peripheral by pulling the connector by the wire. The connector is locked into place and can only be unlocked and removed by pulling back the plug shell.***

3.9 Monitoring The Network Connection

If your vehicle-mount is equipped with a wireless LAN radio, it will typically associate with the nearest access point. The radio signal quality meter in the taskbar indicates the relative strength of the communication link.

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To access the radio signal icon from the keyboard:

- Tap on the radio icon in the taskbar to display the Wireless Statistics dialogue box.

Note: *Moving in and out of the radio coverage area can have varying effects on a network session. At times, you may need to renew your connection by logging in again.*

3.10 Connecting An 8525 To A PC

To pass information between an 8525 and a PC or laptop, you'll need to connect them using an Auxiliary Port Cable (PN CA2200). This cable is equipped with two USB Host I/F connections (for devices such as a mouse or keyboard) and one USB Device I/F connection (to, for example, connect a PC or laptop computer to the 8525).

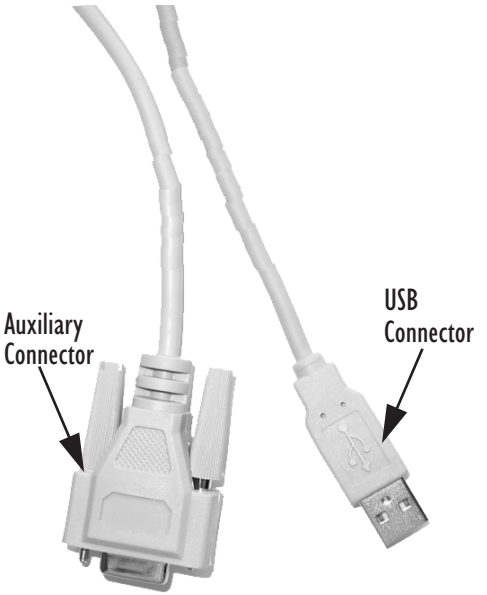

Figure 3.8 Auxiliary Port Cable

- Attach the auxiliary connector to the auxiliary port on the 8525 – the port closest to the vehicle-mount power cable.
- Attach the USB connector to your PC or laptop.

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3.10.1 Using Microsoft® ActiveSync® To Work With Files

Before communication can begin between an 8525 and a PC, ActiveSync® – Microsoft PC connectivity software – must be installed on your PC. Once the devices are cabled together, running ActiveSync on the PC will allow you to:

- View 8525 files from Windows Explorer.
- Drag and drop files between the 8525 and the PC in the same way that you would between PC drives.
- Back up 8525 files to the PC, then restore them from the PC to the vehicle-mount again, if needed, and so on.

To install ActiveSync, follow the step-by-step instructions provided with the program's setup wizard. Refer to the following website for details:
http://www.microsoft.com/windowsmobile/resources/downloads/pocketpc/activesync35.mspx

Note: *You'll need the USB setup utility to configure the .ini file. For information about this USB application, refer to Appendix C: USB Setup Application.*

3.11 General Maintenance

3.11.1 Caring For The Touchscreen

The top of the touchscreen is a thin, flexible polyester plastic sheet with a conductive coating on the inside. The polyester can be permanently damaged by harsh chemicals and is susceptible to abrasions and scratches. Using sharp objects on the touchscreen can scratch or cut the plastic, or crack the internal conductive coating.

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (PN 1008009). These covers reduce the clarity of the display slightly but will dramatically extend the useful life of the touchscreen. When they become scratched and abraded, they are easily removed and replaced.

The chemicals listed below must not come into contact with the touchscreen:

- mustard,
- sodium hydroxide,
- concentrated caustic solutions,
- benzyl alcohol, and
- concentrated miner acids.

3.11.2 Cleaning The 8525

Important: ***Do not immerse the unit in water. Dampen a soft cloth with mild detergent to wipe the unit clean.***

- Use ***only*** mild detergent or soapy water to clean the vehicle-mount unit.
- Avoid abrasive cleaners, solvents or strong chemicals for cleaning.
- To clean ink marks from the keypad and touchscreen, use isopropyl alcohol.

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4.1 Navigating In Windows CE .NET And Applications

Graphic user interfaces like Windows CE .NET for portable devices and desktop Windows (2000, XP, etc.) utilize 'point and click' navigation. An equivalent keyboard shortcut is also available for every 'point and click' action.

Windows CE .NET supports the same 'point and click' user interface and keyboard shortcuts as desktop Windows with one difference – the 'point and click' action is accomplished using a touchscreen rather than a mouse. Actions can be performed using any combination of keyboard shortcuts or touchscreen tapping (provided your 8525 is equipped with a touchscreen).

4.1.1 Navigating Using A Touchscreen And Stylus

Note: *If the touchscreen is not registering your screen taps accurately, it may need recalibration. Refer to* ***"Calibrating The Touchscreen" on page 32****.*

An 8525 equipped with a touchscreen has a *stylus* – a pointing tool that looks like a pen – that is used to select objects on the touchscreen.

Note: *To prevent damage to the touchscreen, use only the stylus (pen) supplied with your 8525.*

To open a file, launch an applet or open a folder:

- Double-tap the stylus on the appropriate icon.

To navigate through a dialogue box – for example, display the information in a tab, choose a radio button, check (√) a checkbox and so on:

- Tap the stylus on a tab, radio button, checkbox and so on.

4.1.2 Navigating Using The Keyboard

If your touchscreen has been disabled, you can use the keyboard rather than a stylus to choose icons and navigate dialogue boxes, display the desktop, and so on. If your unit has already been fully configured and your application is launched at startup, you'll have little need for keyboard navigation.

Operation	Key or Key Combination
Switch between active applications	<ALT> <TAB>
Open task manager	<ALT> <ESC>
Move the cursor	Arrow keys
Open file, folder or icon	<ENTER>
Exit & Save	<ENTER>
Close/Exit & Do Not Save	<ESC>
Navigate Dialogue Boxes	<TAB> To move cursor up <SHIFT> <TAB> To display the contents of the next 'tab' in a dialogue box <CTRL> <TAB>
Select Radio Button/Press Button	<SPACE>
Go to Start Menu	<BLUE><0>

Table 4.1 Keyboard Navigation

Keep in mind that unlike a desktop computer, the 8525 does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence.

Refer to "Working With Files, Folders And Programs" on page 47 for additional details about keyboard navigation.

4.2 Working With Files, Folders And Programs

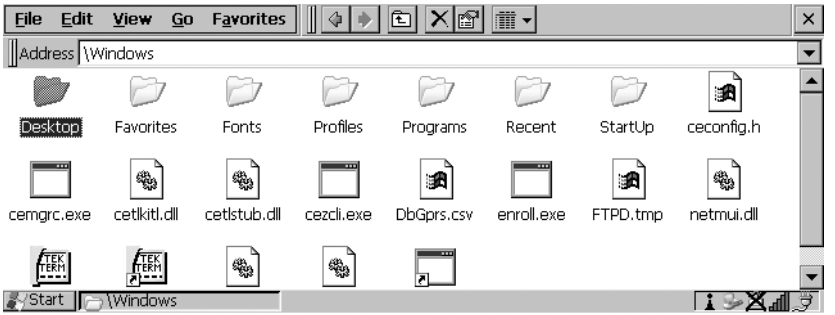

Figure 4.1 Working With Windows Icons

- Double-tap on the appropriate icon – either a folder icon, a program icon or a file icon – to open or launch your selection.

4.3 The Startup Desktop

When the 8525 boots up, the startup desktop (shell) is displayed. Any applications stored in the Startup folder start up immediately.

Note: *The startup folder is located in \Windows\StartUp and \Flash Disk\StartUp.*

Figure 4.2 The 8525 Startup Desktop

- Double-tap on the icon to open a window or, in the case of an application icon, launch an application.

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4.3.1 The Desktop Icons

The icons displayed in the startup desktop operate in much the same way as those displayed on any standard PC desktop that is running Windows®.

My Computer

Choosing this icon displays the contents of your 8525 computer. If you're not sure how to work with the files, folders and programs displayed, refer to "Working With Files, Folders And Programs" on page 47.

Recycle Bin

This option temporarily contains items that were deleted, allowing you to either permanently delete or restore these items.

Internet Explorer

Choosing this icon launches Internet Explorer – a standard Windows CE .NET version. Keep in mind that your supervisor will need to set up access using the **Internet Options** and the **Network and Dial-up Connections** icons in the **Control Panel**.

Remote Desktop Connection

This option allows your 8525 to communicate with a remote desktop PC. "Remote Desktop Connection" on page 63 provides a website with step-by-step instructions.

4.3.2 The Taskbar

Figure 4.3 The Taskbar

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The 8525 is equipped with a taskbar at the bottom of the screen. It displays icons through which you can view the internal battery capacity, the radio signal quality of your unit, and so on. If the vehicle-mount is attached to a peripheral device, an associated icon is displayed. In addition, the taskbar displays the application(s) currently running on your unit and the security level assigned to your 8525.

The taskbar also displays active modifier keys – <SHIFT>, <ALT>, <CTRL>, <BLUE> and <ORANGE>. Keys that have been locked "on" are displayed in *uppercase* letters. For example, if you press the <CTRL> key twice to lock it "on", it is displayed as CTRL KEY in the taskbar.

4.3.2.1 Using The Taskbar

- Using the stylus, tap on the indicator you want to view – the radio icon for example – to display a dialogue box outlining radio communication information.

4.3.2.2 Customizing The Taskbar

To customize the taskbar so that it displays only those icons you require:

- From the Start Menu, tap on the Settings option, and then on the Taskbar and Start Menu option

The Taskbar and Start Menu dialogue box is displayed.

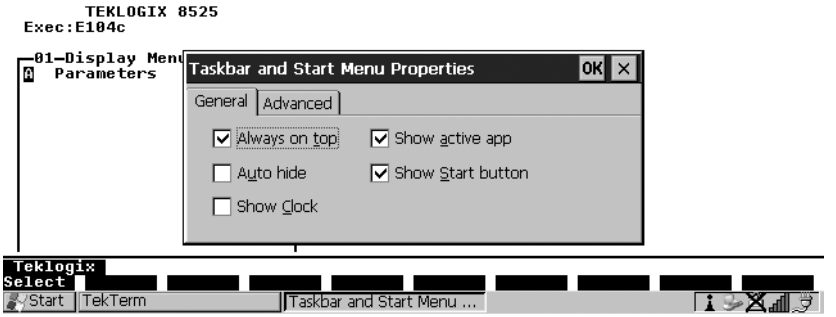

Figure 4.4 Taskbar And Start Menu Settings

- Tap the stylus on the items you want to activate or deactivate. A check mark indicates active items.

Note: *The* Advanced *tab allows you to tap on a* Clear *button to delete the contents of the Documents folder.*

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4.4 The Start Menu

Note: *Some of the Start Menu items may be disabled based on the 8525's current security settings.*

The **Start Menu** lists the operations you can access and work with. It is available from the startup desktop or from within any application.

To display the menu:

- Tap on the Windows® **Start** button in the taskbar. Tap on the item in the menu with which you want to work.

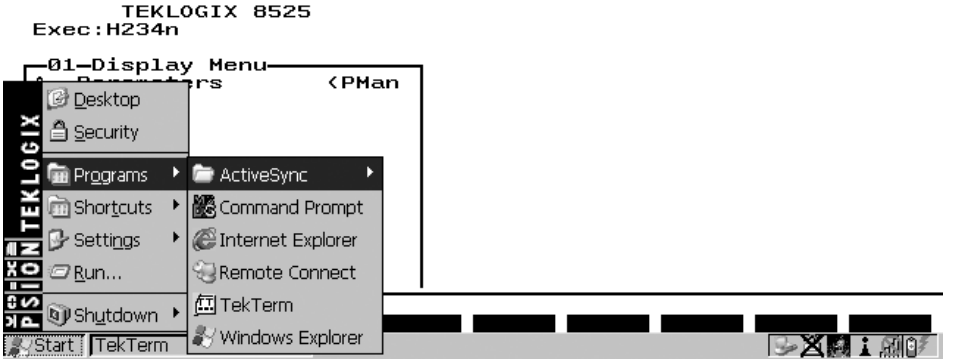

Figure 4.5 Start Menu

4.4.1 The Desktop

Choosing the `Desktop` option from the **Start Menu** displays the 8525 desktop.

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4.4.2 Security Levels

Choosing the Security option from the Start Menu displays a dialogue box in which you can define the access level for the 8525 – Supervisor or User.

Figure 4.6 Security Level

Assigning The Supervisor Security Level

The security level is represented by an icon in the shape of a lock in the taskbar. The security levels define the options accessible to the operator in the Start Menu and the taskbar. By default, the security level is set to User, restricting access to only the most basic Start Menu items.

To allow access to all the Start Menu and taskbar options:

- Tap on the radio button next to Supervisor.
- Tap the stylus in the Password field, and type the Supervisor level password – default password is 123456.
- Tap on OK – you can now access all menu items in the Start Menu and icons in the taskbar.

Accessing Teklogix Level Security

Important: ***The Teklogix security level is reserved for authorized Psion Teklogix personnel only.***

Before you can access Teklogix security level, you need to set the security level to Supervisor.

In the **Security Level** dialogue box (see Figure 4.6 on page 51):

- Tap on the **Configure** button.

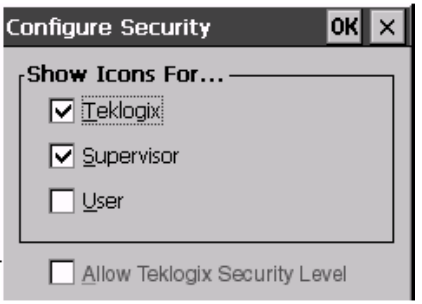

Figure 4.7 Configuring Security Levels

- Tap on the checkbox next to **Allow Teklogix Security Level** to enable (√) this option, and then tap on **OK**.

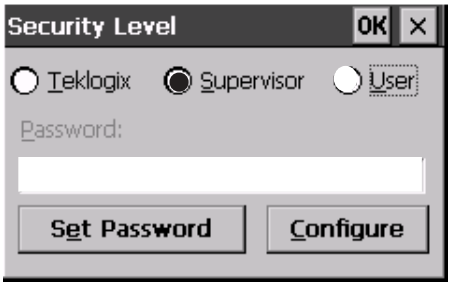

Figure 4.8 Security Levels

The **Teklogix** level security is now available in the **Security Level** dialogue box.

- Tap on the radio button next to **Teklogix**. To activate this security level, you'll need to enter the appropriate Psion Teklogix level password in the **Password** field.

Changing A Password

Note: *Keep in mind that this is the same password as that assigned through the* **Password** *control panel applet. Refer to "Control Panel Icons" on page 64.*

To assign a password:

- Choose a security level, and enter the existing password in the **Password** field
- Choose the **Set Password** button.

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A dialogue box labelled **Password Properties** is displayed.

- Type the new password in the **Password:** text box
- In the **Confirm Password:** text box, retype the new password.

Configuring Security

Choosing the **Configure** button displays the **Configure Security** dialogue box.

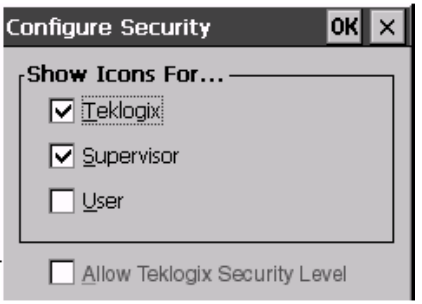

Figure 4.9 Configuring Security

In addition to allowing the operator to access the Teklogix security level (see "Accessing Teklogix Level Security" on page 51), this dialogue box allows you to determine which security levels will have an associated icon displayed in the taskbar. By default, a security icon is not displayed for user-level security.

4.4.3 Programs

- Tap on `Programs` to display a sub-menu of options.

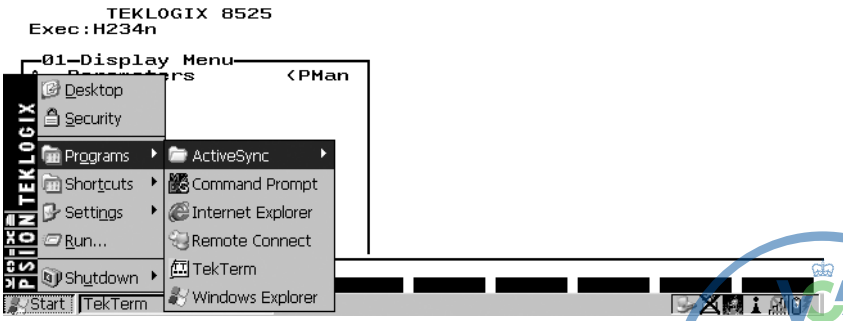

Figure 4.10 Program Sub-Menu

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This sub-menu allows you to choose **ActiveSync** and **Command Prompt**, and you can access the **Internet Explorer**, installed applications (e.g., **Open Tekterm**), **Remote Desktop Connection** and **Windows Explorer**.

ActiveSync®

This option allows you to connect to another device using ActiveSync.

Command Prompt

Command Prompt is used to access the DOS command prompt. At the prompt, you can type DOS commands such as *dir* to display all the directories in the drive.

Internet Explorer

The 8525 is equipped with Microsoft® Internet Explorer consistent with all Windows CE .NET devices on the market. You can access the **Internet Options** icon through the **Start Menu** under `Settings>Control Panel` or by double-tapping on the desktop icon labelled **My Computer** and then, double-tapping on the **Control Panel** icon.

Remote Desktop Connection

Remote Desktop Connection is an 8525 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine using the 8525 (Windows CE .NET device). "Remote Desktop Connection" on page 63 provides a website with details about this option.

Windows Explorer

Windows Explorer installed on your 8525 is consistent with all Windows CE .NET 4.2 devices. You can access this option either from the **Start Menu** under `Programs>Windows Explorer`.

4.4.4 Shortcuts

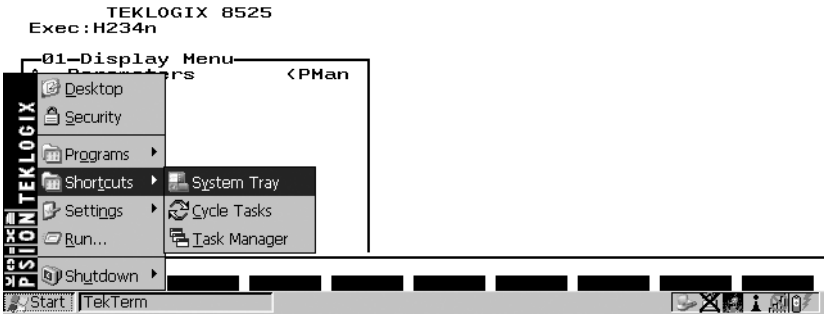

Figure 4.11 Shortcuts Sub-Menu

The System Tray

If your touchscreen is not enabled, you can use the `System Tray` option to access the icons in the taskbar at the bottom of the screen. The taskbar displays indicators such as a radio signal icon and the security level. These indicators are attached to dialogue boxes that provide additional information.

- Choose `System Tray` from the **Start Menu**.

When `System Tray` is chosen, the taskbar icons become accessible. To display the dialogue box attached to an icon:

- Use the arrow keys to highlight an icon – for example – the security icon.
- Press <ENTER> to display the security level dialogue box.

Cycle Tasks

When `Cycle Tasks` is selected (and the Task Manager is not open), you can cycle through active applications. To choose this option:

- Choose `Cycle Tasks`, *or*
- Press <ALT> <TAB>.

The Task Manager

The Task Manager option allows you to switch to another task or to end an active task. To display the task manager window:

- Tap on Task Manager in the **Start Menu**, *or*
- Press <ALT> <ESC>.

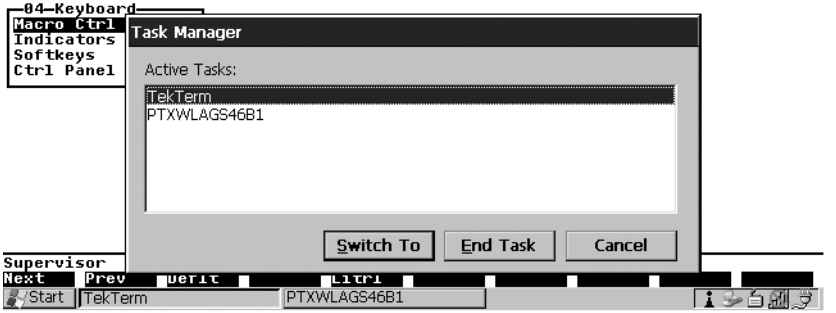

Figure 4.12 Task Manager

4.4.5 Settings

- Tap on Settings to display a sub-menu of options.

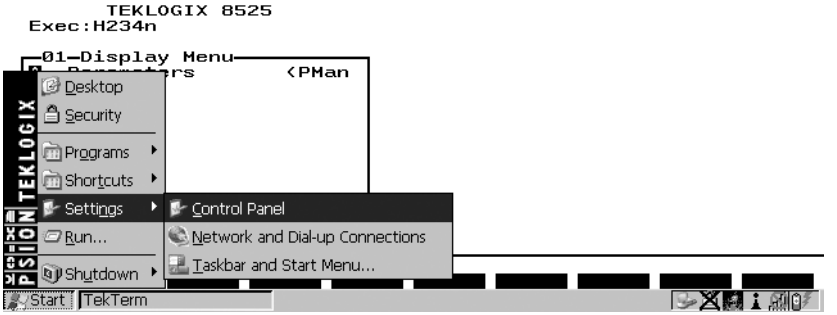

Figure 4.13 Settings Sub-Menu

Control Panel

The **Control Panel** contains applets used to configure hardware, the operating system and the shell. If your 8525 is running with the Psion Teklogix Tekterm application or another application, additional configuration applets may appear in the **Control Panel**.

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Network And Dial-Up Connections

The **Network and Dial-up Connections** window allows you to configure the 8525 radio or execute an existing configuration. Refer to “Configuring An IEEE 802.11 Radio Installed In The 8525” on page 15 for radio setup details.

Taskbar And Start Menu

The **Taskbar and Start Menu** option displays a dialogue box in which you can customize the taskbar, choosing which options will be displayed. Refer to “Customizing The Taskbar” on page 49 for additional details about this option.

4.4.6 Run

Choosing the Run option from the **Start Menu** displays a dialogue box in which you can enter the name of the program, folder or document you want to open or launch.

Figure 4.14 Run Dialogue Box

4.4.7 Shutdown

Choosing Shutdown displays a sub-menu of options, including **Suspend, Warm Reset** and **Cold Reset.**

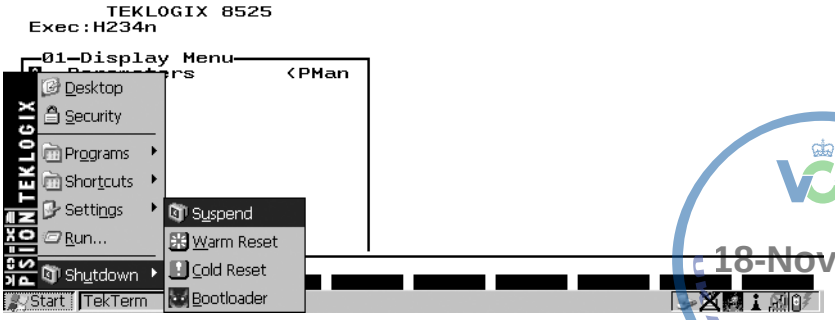

Figure 4.15 Shutdown Sub-Menu

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Note: *This menu varies slightly depending on the security level chosen. When the 8525 is set to* ***User*** *level, the* Shutdown *option is replaced by* Suspend. *A sub-menu is not available.*

At ***Teklogix*** *security level, an additional option is available in the sub-menu –* Bootloader. *This option behaves like cold-reset, except that the 8525 starts Bootloader rather than Windows CE .NET.*

Suspend

The Suspend option suspends the 8525 immediately – this is equivalent to turning the vehicle-mount off.

Warm Reset

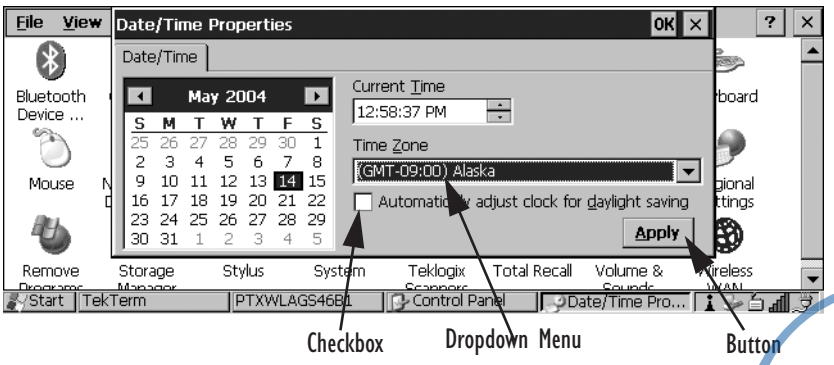
The Warm Reset option resets the 8525, leaving all saved files and (registry) settings intact. Any unsaved data is lost.

Cold Reset

The Cold Reset option resets the 8525. Any files not stored in permanent memory are lost. However, the registry settings are saved.

4.5 Using A Dialogue Box

A dialogue box (like the samples in Figure 4.16) appears when you need to make selections and enter further information.



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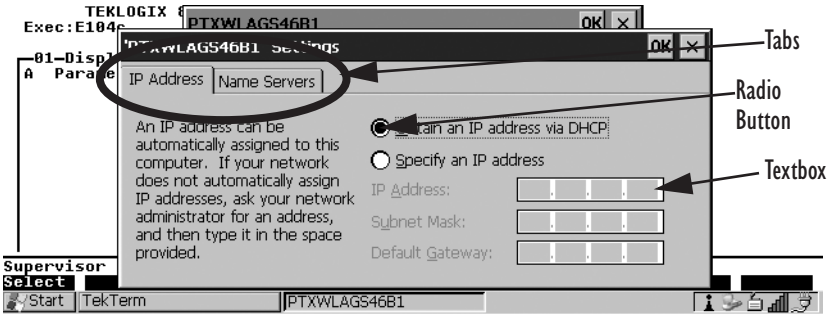
Tabs
Radio Button
Textbox
IP Address
Name Servers
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space provided.
Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Start
TekTerm
PTXWLAGS46B1

Figure 4.16 Navigating Dialogue Boxes

Dialogue boxes contain one or more of the following elements:

Tab: A tab separates different elements of a dialogue box. Tap on a tab to display the associated information.

Textbox: A textbox requires that you type information. Highlight the textbox with the stylus and then type the appropriate information.

Dropdown: This type of menu is identified by up and down arrows next to the dropdown menu to indicate that additional options are available. Tap the stylus on the arrow to display the options in the menu.

Checkbox: This box allows you to select or deselect an option. To select or deselect a checkbox, tap the stylus on the checkbox to select (√) or deselect it.

Radio buttons: These buttons allow you to choose from a number of options. For example, in the sample screen in Figure 4.16 on page 59 you can choose to 'Obtain an IP address via DHCP' or 'Specify an IP address'. Tap the stylus on the button to select or deselect it.

Buttons: This type of button allows you to 'Save', 'Delete' and so on the options you've chosen in a dialogue box. Tap the stylus on the button to activate it.

Saving Your Choices: Once you've made all your changes, tap on OK to save your changes and exit the window.

Note: *A dialogue box item that is displayed in grey text indicates that it is not currently available.*

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5.1 Remote Desktop Connection

Remote Desktop Connection is an 8525 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine, using the 8525 (Windows CE .NET device).

Refer to the following website for step-by-step information about setting up this connection:

http://www.microsoft.com/WindowsXP/pro/using/howto/gomobile/remotedesktop/default.asp

5.2 Pocket PC Compatibility

The 8525 supports the AYGShell API set that allows PocketPC-compatible applications to run on the vehicle-mount. Microsoft® Windows® CE.NET 4.2 is designed to include application programming interface (API) compatibility support for the Microsoft Windows Powered Pocket PC 2002 shell in 8525s running Windows® CE.NET 4.2.

The website listed below describes the APIs exposed through AYGShell and the application compatibility between Windows Powered Pocket PC 2002-based applications and Windows CE .NET 4.2-based devices:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dncenet /html/WINCENET_CEPCC_App.asp

5.3 The Control Panel

The Windows CE .NET Control Panel provides a group of icons through which you can set a variety of system-wide properties, such as mouse sensitivity, network configuration and the desktop color scheme.

Note: *If you are uncertain how to move around a dialogue box and make selections, review* ***"Using A Dialogue Box" on page 58****.*

When the 8525 boots up, the startup desktop (shell) is displayed, and any applications stored in the Startup folder start up immediately.

To access the Windows CE .NET Control Panel:

- Use the stylus to tap on the Windows Start button in the taskbar to display the Start Menu. Tap on Settings>Control Panel.

The **Control Panel** folder contains icons used in the setup of your 8525.

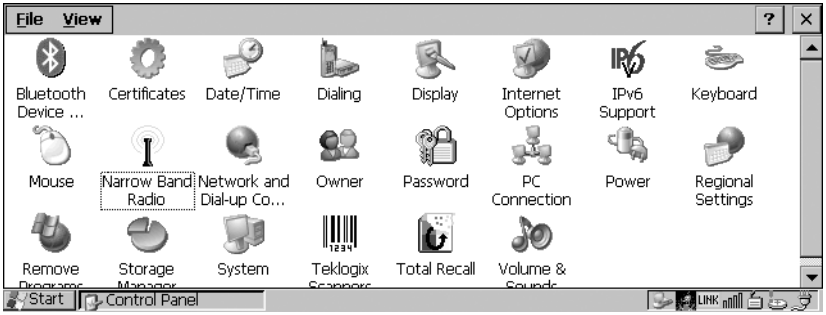

Figure 5.1 Control Panel

5.4 Control Panel Icons

The Windows CE .NET **Control Panel** provides a group of icons that allow you to customize and adjust settings on your 8525.

Date/Time

Date/Time

Allows you to set the current Month, Date, Time and Time Zone on your unit.

Display

Display

Changes the appearance (window colour scheme) on the unit desktop. This applet can also be used to adjust the backlight level.

Keyboard

Keyboard

Toggles character repeat on and off and specifies delay and rate for repeated characters. It also allows you to adjust the keyboard backlight threshold and intensity. Additional tabs also allow the configuration of macros and scanner key remapping.

Volume & Sounds

Volume & Sound

Allows you to adjust the volume of the beep that is emitted to indicate events like warnings, key clicks and screen taps.

Sounds (wave files) cannot be reproduced on 8525 units. The beeper volume and the conditions under which it sounds are tailored from within the application installed on your unit.

Mouse Properties

Allows you to customize the sensitivity and speed of the stylus double-tap.

Owner

Provides fields in which you can specify owner information. A '**Notes**' tab allows additional information to be entered and displayed when the unit is powered up. '**Network ID**' tab information is used to access network resources. (This information should be provided by your System Administrator.)

Password

Allows you to assign a password to restrict access to elements of the unit. Once assigned, password access cannot be circumvented so it is important that you write down your password and keep it in a safe place. Refer to "Security Levels" on page 51 for details.

Power

Allows you to switch to **Suspend** state, define which **Card Slots** are active and to turn power for the card slots (PCMCIA and SD/MMC) on and off. Note that a battery status tab is visible only when the 8525 is set to the Teklogix security level.

Regional Settings

Allows you to specify the local language the display text will use along with the format of numbers, currency, time and date for your region.

Remove Programs

Lists the programs that can be removed from your unit. To remove a program, select it and then click on the **Remove** button.

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Stylus

Adjusts how Windows CE .NET recognizes your double-tap (as slow or rapid successive taps).

Under the 'Calibration' tab, you can recalibrate your touchscreen by tapping on the 'Recalibrate' button and following the directions on the calibration screen.

System

Displays system and memory properties. Under the Memory tab, you can allocate memory between storage memory and program memory.

Dialing

Specifies dialing settings, including area code, country code, dial type and the code to disable call waiting. You can store multiple patterns – for example, 'Work', 'Home', and so on using this dialogue box.

Certificates

A public key is transmitted as part of a certificate. The certificate assigned through this icon is used to ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The client checks that the certificate has been digitally signed by a certification authority that the client explicitly trusts. "Certificate Assignment" on page 84 directs you to the appropriate setup information.

PC Connection

Enables direct connections to a desktop computer. Selecting the 'Change Connection' button allows you to change the type of direct connect to your PC.

Teklogix Scanners

Used to set up scanner parameters and choose the bar code symbologies that the 8525 scanner will successfully read.

Network And Dial-up Connections

Displays a network window from which the 8525 radio can be configured and an existing configuration can be executed. Refer to “Configuring An IEEE 802.11 Radio Installed In The 8525” on page 15 for details.

Internet Options

Used to configure your Internet browser including options such as identifying the default and search page that the browser applies when connecting to the Internet, setting the cache size, specifying the Internet connection options, and defining the security level that is applied when browsing.

SNMP

SNMP (Simple Network Management Protocol) is the protocol used to monitor and manage devices attached to a TCP/IP network. *This feature is reserved for future use.*

Bluetooth

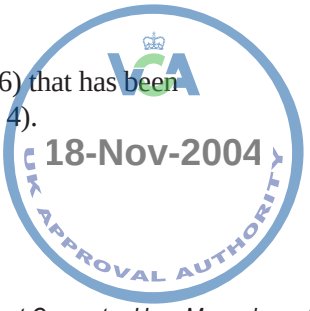
A short-range wireless technology that enables data communication between devices. It also provides the capability to use a Bluetooth-enabled cellular phone as a data modem, exchanging information with other Bluetooth devices and providing network access.

Total Recall

This is a Psion Teklogix utility developed to maintain applications and setting over cold boots. This utility is based on a backup and restore concept and is extended to incorporate powerful advanced features.

IPv6 Support

Refers to a new Internet Protocol specification (version 6) that has been published to use 128-bit IP addresses (replacing version 4).



Narrow Band Radio

This icon is displayed only if a Narrow Band radio is installed in the unit. It provides access the Narrow Band setup screens.

5.5 Basic Setup

5.5.1 Display Properties

- In the **Control Panel**, choose the **Display** icon.

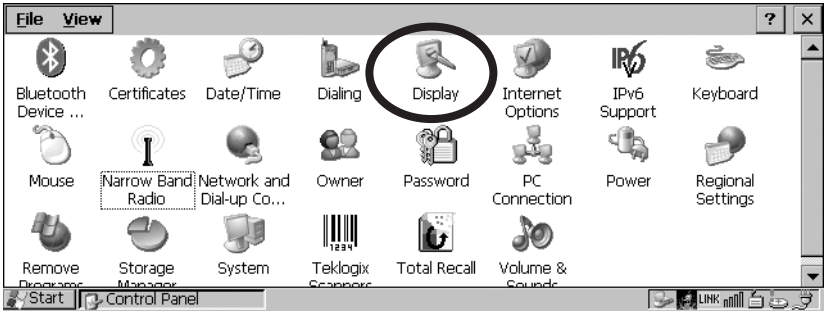


Figure 5.2 Choosing The Display Icon

5.5.1.1 Display Background

The **Background** tab allows you to adjust the 8525 display background.

- In the **Display Properties** dialogue box, open the **Background** tab.

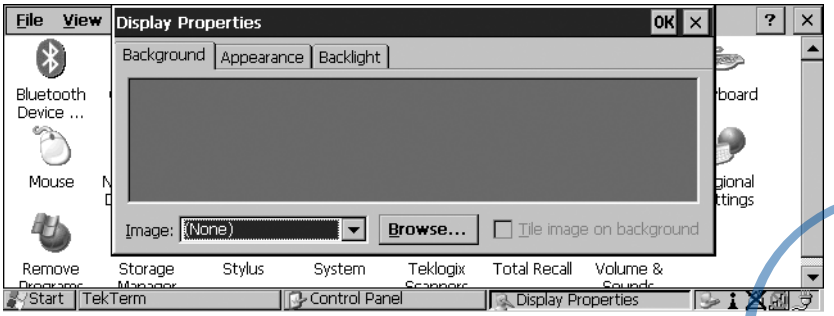


Figure 5.3 Display Contrast Properties

This option allows you to change the background colour or add an image.

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5.5.1.2 Display Appearance

- In the **Display Properties** dialogue box, open the **Appearance** tab.

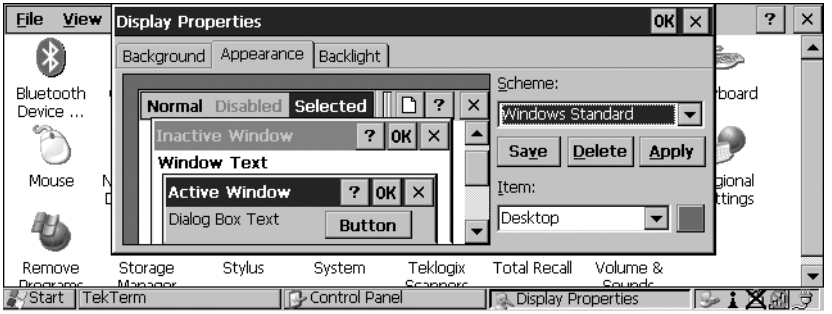

Figure 5.4 Display Appearance Properties

This dialogue box allows you to customize the display colour scheme.

5.5.1.3 Display Backlight

The backlight is activated for a configurable amount of time when the 8525 is in use (key press, scanner trigger or data received from the host). The **Display Properties** dialogue box in the **Control Panel** allows you to specify the intensity of the backlight along with how long the display will maintain the specified intensity.

Note: *Keep in mind that this option may be restricted to supervisory use only.*

- In the **Display Properties** dialogue box, open the **Backlight** tab.

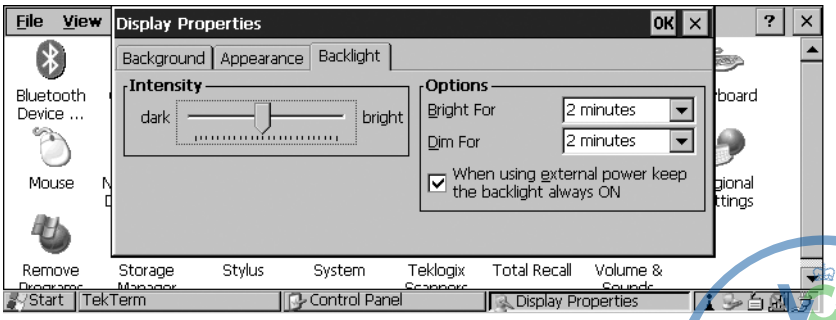

Figure 5.5 Display Backlight Properties

Note: *Backlight changes take affect immediately. You do not need to reset the 8525.*

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Intensity

This parameter is used to adjust the light intensity of the backlight. Sliding the bar to the left lowers the light intensity, and sliding it to the right raises the intensity.

Bright For

The value chosen from this dropdown menu determines the duration of time that the backlight stays on at the configured intensity when a unit is not in use.

Dim For

The value chosen from this dropdown menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) when a unit is not in use.

External Power Checkbox

When you select (√) the checkbox next to **'When using external power keep the backlight always ON.'**, the backlight remains ON at the configured intensity ***when the 8525 is operating with external power*** (not internal battery power). If the 8525 is drawing power from a battery, this option is ignored and the other parameters defined in **Display Properties** dialogue box take affect.

5.5.2 Keyboard Properties

This icon displays the **Keyboard Properties** dialogue box in which you can adjust the repeat rate of the keys, the intensity of the keyboard backlight and the behaviour of the <BLUE> and <ORANGE> modifier keys. This dialogue box also allows you to define macro keys and Unicode characters.

- In the **Control Panel**, choose the **Keyboard** icon.

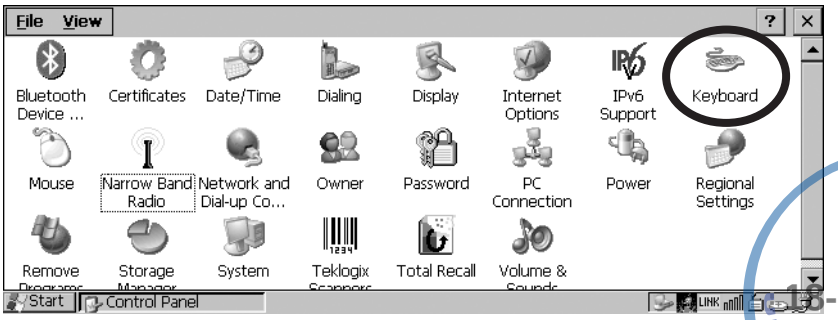

Figure 5.6 Choosing The Keyboard Icon

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5.5.2.1 Key Repeat

- In the **Keyboard Properties** dialogue box, open the **Repeat** tab.

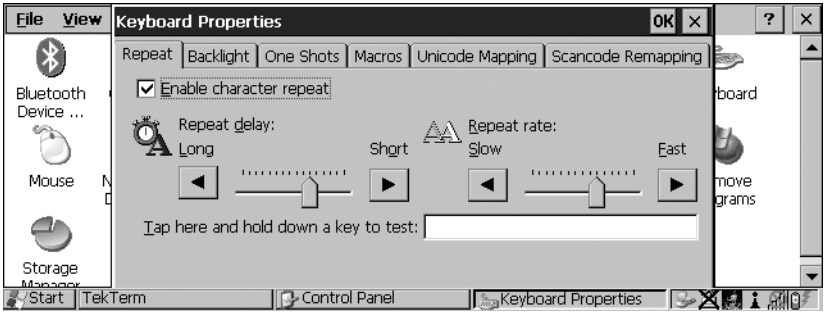

Figure 5.7 Key Repeat Properties

Enable Character Repeat

Tapping in the checkbox next to this option enables (√) the key behaviour you specify in this dialogue box.

Repeat Delay

The repeat delay chosen for this parameter determines the delay in milliseconds between repeat characters. Sliding the **Repeat Delay** bar to the left increases the delay between key repeats while sliding the bar to the right shortens the repeat delay time.

Repeat Rate

The value assigned for the **Repeat Rate** parameter determines how quickly the key you press repeats and is measured in characters per second (cps). Sliding the bar to the left slows the repeat rate, and sliding the bar to the right increases the repeat rate.

Note: *Use the field at the bottom of this dialogue box to test the repeat delay and rate settings you've chosen.*

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5.5.2.2 Keyboard Backlight

- In the Keyboard Properties dialogue box, open the Backlight tab.

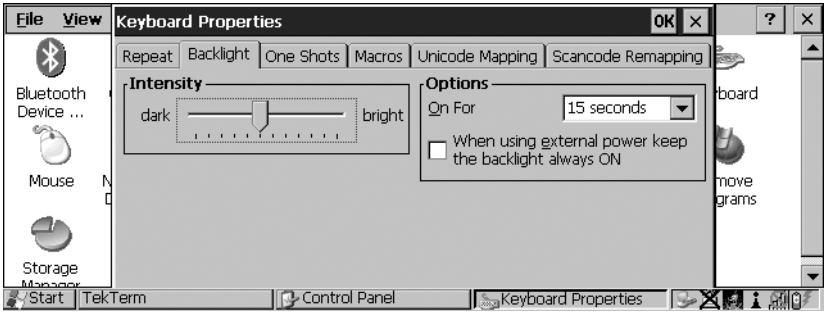

Figure 5.8 Keyboard Backlight Properties

Intensity

This parameter is used to adjust the light intensity of the 8525 keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

ON For

The value chosen from this dropdown menu determines the duration of time that the keyboard backlight stays on when a unit is not in use.

Note: *Tapping in the checkbox next to* 'When using external power, keep the backlight always ON' *(√) forces the keypad backlight to remain on when the unit is operating with external power such as vehicle battery or A/C adaptor.*

5.5.2.3 Keyboard One Shot Modes

- In the Keyboard Properties dialogue box, open the One Shots tab.

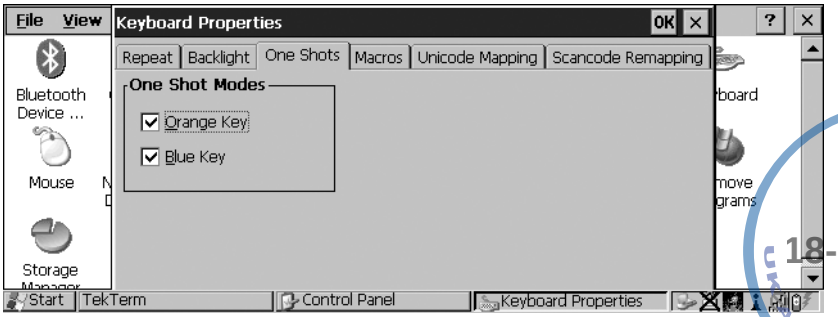

Figure 5.9 Keyboard One Shot Properties

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When these options are enabled (√), the <ORANGE> and <BLUE> keys only remain active until the next key is pressed. If the 'One Shots' options are disabled (the checkbox is left blank), the <ORANGE> and <BLUE> keys are locked 'on' when pressed only **once**; they remain 'on' until they are pressed a second time to unlock them.

Note: *Keep in mind that checking the taskbar lets you know whether or not these keys are locked on. When the <ORANGE> and <BLUE> keys are locked 'on', the taskbar at the bottom of the screen displays them in* ***uppercase*** *characters – BLUE KEY and ORANGE KEY. If these keys are displayed in* ***lowercase*** *characters in the taskbar, you'll know that the Blue Key and the Orange Key are* ***not*** *locked. They will become inactive following a key press.*

5.5.2.4 Keyboard Macro Keys

- In the Keyboard Properties dialogue box, open the Macros tab.

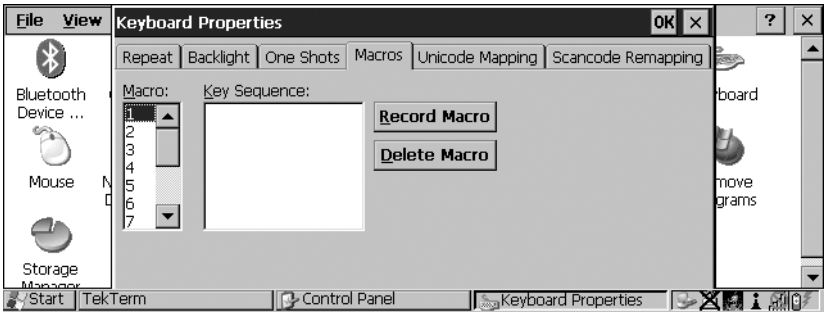

Figure 5.10 Macro Dialogue Box

A macro has 200 programmable characters (or "positions"). The macro keys can be programmed to replace frequently used keystrokes, along with the function of executable keys including <ENTER>, <BKSP> and <DEL> (<BLUE>-<BKSP>), function keys and arrow keys.

Recording And Saving A Macro

You can program up to 12 macro keys.

- In the Macro: menu, highlight a macro key number – for example, macro 1 to assign a macro to macro key <M1>. Tap on the Record Macro button.

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A message screen is displayed instructing you to 'Please Enter Key Strokes'.

Figure 5.11 Recording A Macro

- Type the macro sequence you want to assign to the Macro key. You can type text and numbers, and you can program the function of special keys into a macro.

Note: *Tap on the 'Stop Recording' button at any time to suspend the process.*

- When you've finished recording your macro sequence, press the key sequence – <CTRL> <ALT> <ENTER>.

A new screen displays the macro sequence you created. The Save Macro button is highlighted.

- Tap on the Save Macro button.

Note: *If you want to discard the macro you've just created, tap on the* Discard Macro *button.*

Executing A Macro

To execute a macro:

- Press the macro key to which you've assigned the macro. For example, if you created a macro for macro key '1', press <M1> to execute the macro.

Deleting A Macro

To delete a macro:

- In the Macros tab, tap on the macro number you want to delete.
- Tap on the Delete Macro button.

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5.5.2.5 Unicode Mapping

- In the **Keyboard Properties** dialogue box, open the **Unicode Mapping** tab.

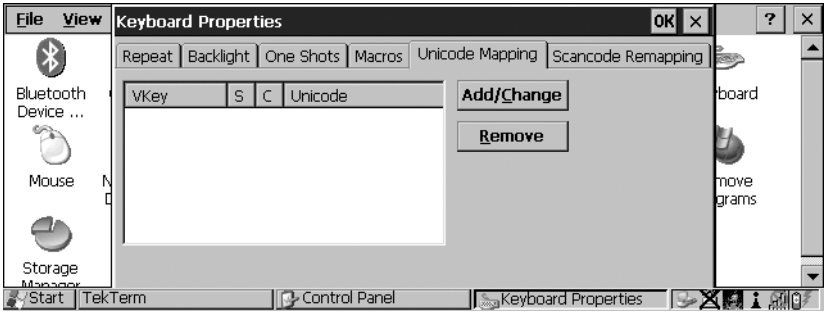

Figure 5.12 Unicode Mapping

The **Unicode Mapping** tab is used to map combinations of virtual key values and <CTRL> and <SHIFT> states to Unicode™ values. This tab shows the configured Unicode character along with the Unicode value. For example, the sample screen above shows “a (U+0061)” indicating that the character “a” is represented by the Unicode value “0061”, and so on. Keep in mind that Unicode configurations are represented as hexidecimal rather than decimal values.

All user-defined Unicode mappings are listed in the **Unicode Mapping** tab in order of virtual key value, and then by order of the shift state. If a Unicode mapping is not listed, the Unicode mapping is mapped to the default Unicode value.

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Adding And Changing Unicode Values

Important: ***Changes to Unicode mappings are not saved until you exit the Keyboard Properties dialogue box.***

- Tap on the **Add/Change** button.

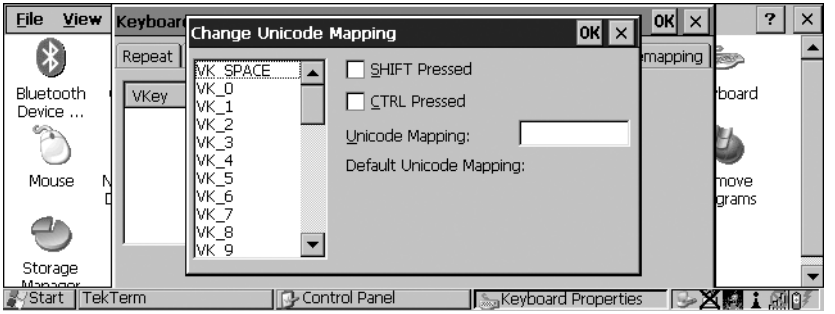

Figure 5.13 Adding And Change Unicode Values

- Tap on a value in the Unicode mapping list – in the sample screen above, a value will be assigned to virtual key 0 (VK 0).
- Tap the stylus in the '**Unicode Mapping**' field, and type a Unicode value for the highlighted key.

Note: *To add a shifted state – <SHIFT> and/or <CTRL>, tap the checkbox next to 'SHIFT Pressed' and/or 'CTRL Pressed'. to select (√) the shift state you want to assign.*

Removing Unicode Values

- In the **Unicode Mapping** tab, highlight the item you want to delete, and tap the stylus on the **Remove** button.

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5.5.2.6 Scancode Remapping

A scancode is a number that is associated with a physical key on a keyboard. Every key has a unique scancode that is mapped to a virtual key, a function or a macro. Scancode Remapping allows you to change the functionality of any key on the keyboard. A key can be remapped to send a virtual key (e.g. VK_F represents the 'F' key; VK_RETURN represents the <ENTER/ON> key, etc.), perform a function (e.g. turn the scanner on, change volume/contrast, etc.) or run a macro.

There are three different tables of scancode mappings: the **Normal** table, the **Blue** table and the **Orange** table. The **Normal** table defines unmodified key presses; the **Blue** table defines key presses that occur when the <BLUE> modifier is on; the **Orange** table defines key presses that occur when the <ORANGE> modifier is on. The default mappings of these scancodes can be overwritten for each of these three tables using the **Scancode Remapping** tab accessed from the **Keyboard Properties** dialogue box.

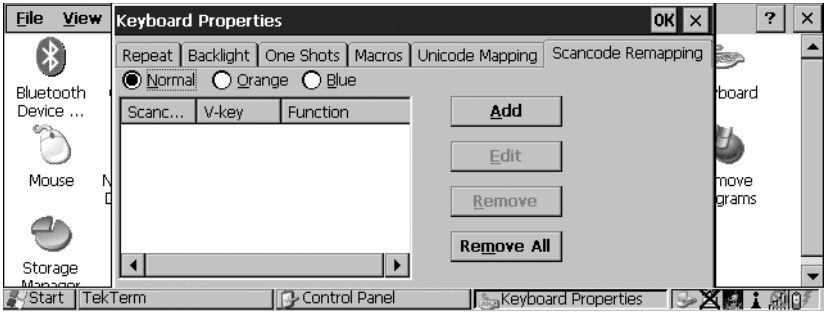

Figure 5.14 Scancode Remapping

The first column in the **Scancode Remapping** tab displays the Scancodes in hexidecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.

If the scancode is remapped to a function or a macro, the first second columns remain blank while the third column contains the function name or macro key number (e.g., Macro 2).

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Adding A Remap

To add a new remapping:

- Tap the stylus on the **Add** button at the bottom of the dialogue box.

The **Remap Scancode** dialogue box is displayed.

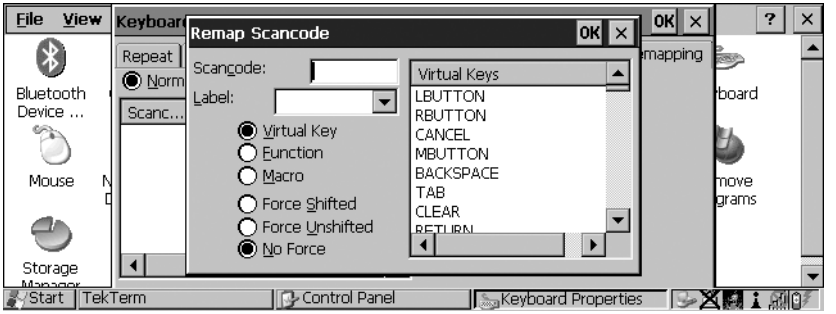

Figure 5.15 Remapping A Key

- Type the scan code in hexidecimal in the field labelled **Scancode:**

Note: *The Label: field displays the default function of the scancode you are remapping.*

Virtual Key, Function And Macro

The radio buttons along the side of the dialogue box allow you to define what the scan code will be remapped to: **Virtual Key**, **Function** or **Macro**.

When **Virtual Key** is selected, you can choose to force <SHIFT> to be either 'on' or 'off' when the virtual key is sent. If **No Force** is selected, the shift state is dependent on whether the shift state is on or off at the time the virtual key is sent.

When **Function** is selected, a list of valid functions appears in the dialogue box.

When **Macro** is selected, the macro keys available on your unit are listed in the dialogue box.

- Choose **Virtual Key**, **Function** or **Macro**.
- Choose a function from the **Function** list in the dialogue box, and tap on **OK**.

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Editing A Scancode Remap

To edit a scancode:

- In the **Scancode Remapping** tab, tap the stylus on the remap you want to edit.
- Tap on the **Edit** button, and make the appropriate changes.
- Tap on **OK** to save your changes.

Removing A Remap

To delete a remap:

- In the **Scancode Remapping** tab, highlight the scancode you want to delete, and tap on the **Remove** button.
- Tap on **OK**

5.5.3 Volume And Sound Properties

Note: *Sounds (wave files) cannot be reproduced on 8525 units. The conditions under which 8525s emit sounds are tailored from within the application installed on your unit.*

- In the **Control Panel**, choose the **Volume & Sounds** icon.

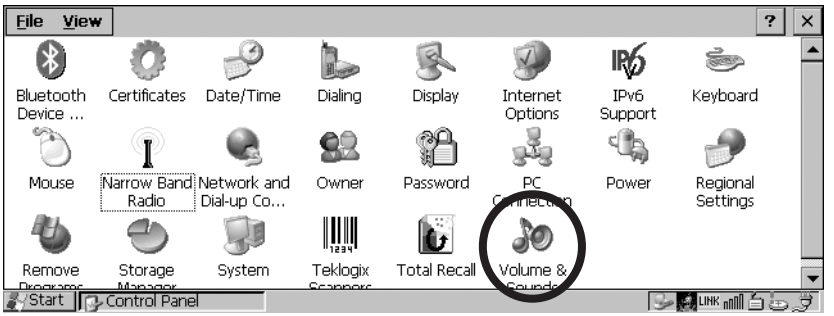

Figure 5.16 Choosing The Volume Icon

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5.5.3.1 Volume Adjustments

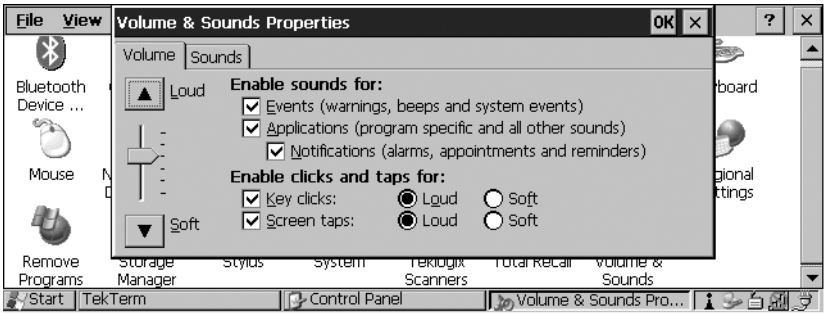

Figure 5.17 Volume Settings

- Slide the volume button upward to increase the beeper volume or downward to decrease the beeper volume.
- Under the heading '**Enable sounds for:**', enable (√) the conditions under which you want the 8525 to emit a beep.

5.5.4 Power Management Properties

This icon displays a **Power Properties** dialogue box that indicates the unit's internal backup battery capacity and indicates the power source of the 8525.

- In the **Control Panel**, choose the **Power** icon.

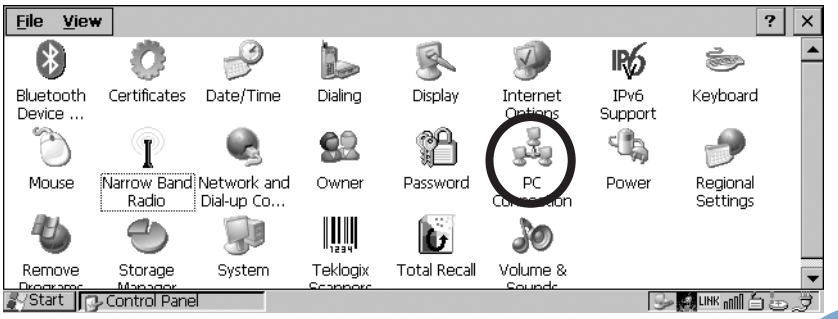

Figure 5.18 Choosing The Power Icon

5.5.4.1 Power Suspend

Note: *A Battery tab is only available when the security level is set to* Teklogix.

- In the Power Properties dialogue box, open the Suspend tab.

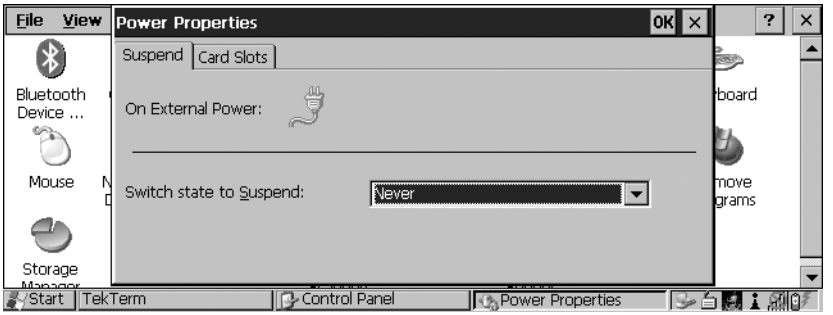

Figure 5.19 Power Suspend Properties

Switch State To Suspend

When the 8525 is idle – not receiving any user input (a key touch, a scan, and so on) or system activity (serial data, an activity initiated by an application, and so on), the the value assigned in the Switch State To Suspend field determines when the unit will go to suspend state (appear to be off).

When the time in the Suspend field elapses without any activity, the unit enters Suspend state. In Suspend state, the 8525 CPU enters a *sleep* state, and the radio is shut off. The state of the device (RAM contents) is preserved. Pressing <ENTER> wakes the system from suspend state. When the 8525 is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

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5.5.4.2 Card Slots

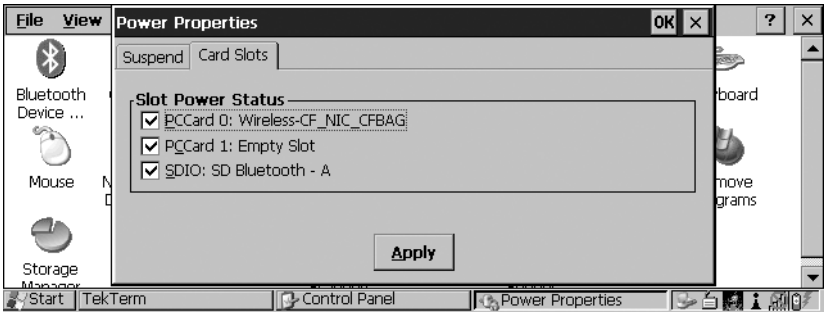

Figure 5.20 Activating Card Slots

This tab is used to enable or disable power to the individual PC Card and SDIO slots in your unit.

5.5.5 Stylus Properties

Note: *Touchscreen calibration may not be enabled on your unit. If your screen appears to require recalibration, contact your supervisor.*

- In the **Control Panel**, choose the **Stylus** icon.

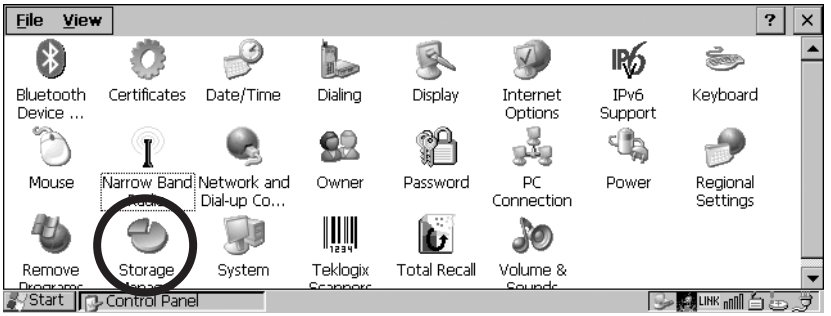

Figure 5.21 Stylus Icon

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5.5.5.1 Setting Double-Tap Sensitivity

- In the **Double-Tap** tab, follow the directions to tailor the sensitivity of the stylus when you tap on the touchscreen.

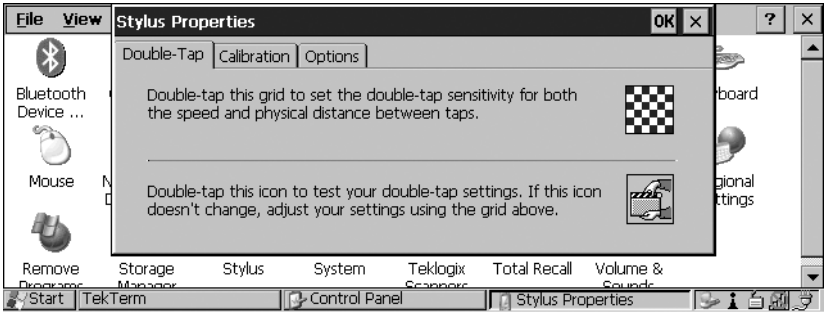

Figure 5.22 Setting Stylus Sensitivity

5.5.5.2 Touchscreen Calibration

Touchscreens rarely require recalibration. However, if your touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, follow the directions in the **Calibration** tab.

- Choose the **Calibration** tab and then tap on the **Recalibrate** button.

Figure 5.23 Calibrating The Touchscreen

- Follow the directions in the **Calibration** tab to recalibrate the screen.

5.5.5.3 Options – Disabling The Touchscreen

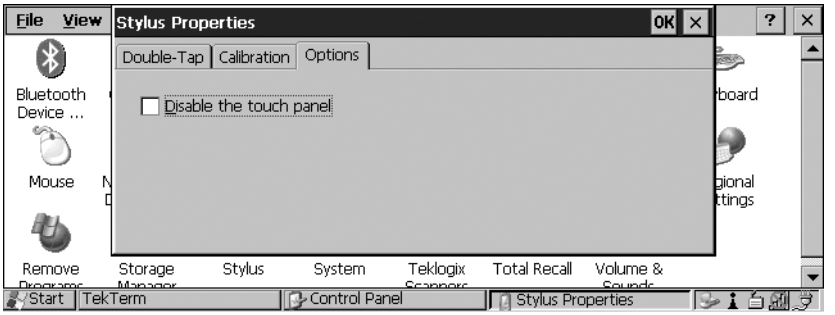

Figure 5.24 Disabling The Touchscreen

- Tap the stylus on the checkbox next to (√) '**Disable the touch panel**'. The touch-screen will not accept screen taps.

5.5.6 Certificate Assignment

- In the **Control Panel**, choose the **Certificate** icon.

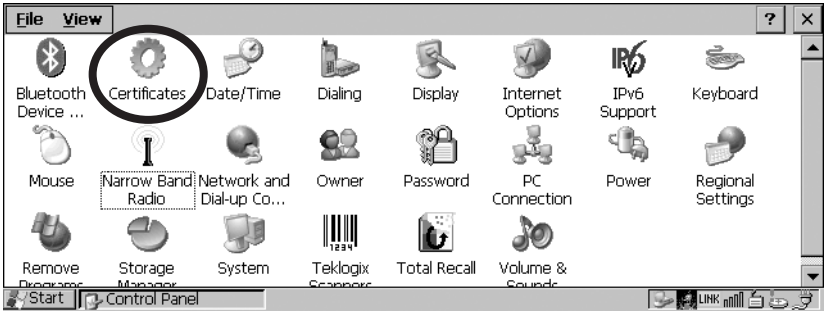

Figure 5.25 Certificates Icon

This dialogue box is used in conjunction with 802.1x authentication to enhance 8525 security.

Figure 5.26 Certificates Dialogue Box

For a detailed description about **Certificate** setup for both the server and client-side devices (8525s), refer to the following website:

www.microsoft.com/windows2000/techinfo/planning/walkthroughs/default.asp - "Security Services"

Note: *When importing certificates, the 8525 only recognizes .cer files.*

5.5.7 Narrow Band Radio

Note: *Keep in mind that the Narrow Band icon is only visible in the Control Panel when a Narrow Band radio is installed in the unit.*

- In the **Control Panel**, choose the **Narrow Band radio** icon.

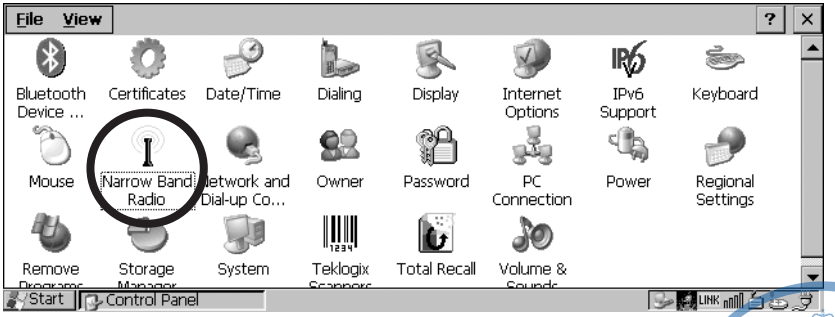

Figure 5.27 Narrow Band Icon

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5.5.7.1 Info Tab

In the Narrow Band RAdio dialogue box, the Info tab displays information about the radio – it ***cannot*** be edited.

Figure 5.28 Narrow Band Information

The "Power" information in this screen indicates the power of the radio installed in the unit – 0.5 or 1.0 W). The "Serial Number" is the identifier for the radio and is used by the protocol when the "Auto Radio Address" parameter is enabled. The CIS (Card Information Structure) Data is manufacturer information describing the PC Card installed in the 8525. "DSP x.x / FPGA 0xNN" indicates the firmware revision of the radio's DSP (x.x) and FPGA (0xNN) where x.x and NN represent actual revision numbers.

Statistics Screen

- Tap on the Statistics button to display the Protocol Statistics screen.

These statistics are updated every second while the dialogue box is displayed.

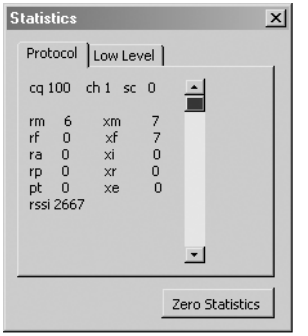

Figure 5.29 Protocol Statistics

The following table provides a brief description of these statistics:

Statistic	Description
cq	Channel quality. See the description of the "Channel Switch Speed" parameter in the channel tab for more information on how "cq" affects channel switching (see “Channel Switch Speed” on page 90).
ch	Current channel
sc	Monitor state of RF Link: LOCKED=0, LOCKPENDING=1, LOWCQWAIT=2, SCANNING=3, STARTUP=4, ABANDON=5
rm	Number of received messages, complete application messages
xm	Number of transmitted messages, complete application messages
rf	Number of received polls with attached message
xf	Number of transmitted frames
ra	Number of received radio link aborts
xi	Number of transmitted radio link initialization messages
rp	Number of received polls
xr	Number of transmitted retries
pt	Number of poll timeouts
xe	Number of transmitted errors
rssi	Received Signal Strength Indicator

Table 5.1 Protocol Statistics Descriptions

Low Level Screen

- Tap on the **Low Level** tab to display the **Low Level** statistics screen.

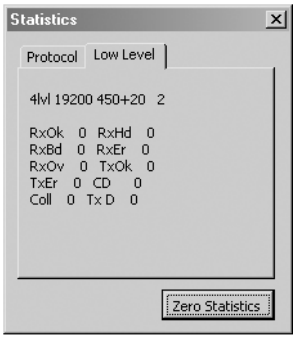

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Figure 5.30 Low Level Statistics Screen

Table 5.2 defines the elements of the **Low Level** statistics screen.

Statistic	Description
RxOk	Message buffers discarded due to lack of available receive buffers
RxHd	Message headers successfully received
RxBd	Message bodies successfully received
RxEr	Message buffers received with detected errors
RxOv	Number of transmitted messages, complete application messages
TxOk	Message buffers successfully transmitted
TxEr	Message buffers which failed to transmit.
CD	Number of carrier detect changes detected
Coll	Number of collisions detected
Tx D	Actual difference in time (in RTC ticks) between when the most recent transmit (with timestamp) was scheduled to start and when it actually started.
TxMD	Maximum "Tx D" value
Rx X	Number of extra characters received for last received message (due to delay in host reporting back actual body size)
RxMx	Maximum "Rx X" value
MChg	Number of completed mode changes

Table 5.2 Low Level Statistics Descriptions

Default All Parameters

- Tap on the **Default all Parameters** button to return all registry parameters to default values.

When this button is pressed, a screen appears asking if you're sure you want to return all parameters to their default values.

- Tap on the **Yes** button to return values to their default settings.

Note: *This button does **not** default the radio parameters set under the* **Radio** *tab.*

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5.5.7.2 Channel Tab

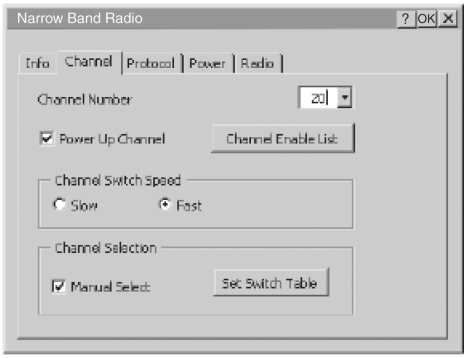

Figure 5.31 Channel Tab

Channel Number

This parameter determines the operating radio channel of the 8525. The allowable range for this parameter is `1` to `20`. The default value is `1`.

Note: *The* **Channel Number** *dropdown menu displays only the channels that have been enabled in the* **Channel Enable List**.

Power Up Channel

When this parameter is enabled (√), the 8525 begins communicating on the channel specified in the **Channel Number** parameter when the unit is powered up. This setting may prevent the migration of 8525s to the same channel due to uneven coverage in some sites.

If this parameter is disabled (unchecked), the unit will continue communicating on the same channel that it was on before it was powered off.

Channel Enable List

- Tap on the **Channel Enable List** button to display a dialogue box listing available channels.

Figure 5.32 Channel Enable Dialogue Box

This dialogue box is completed by default with all channels that have frequencies configured. A checkmark (√) indicates that a channel is enabled. An unchecked check box indicates that the channel is disabled. The maximum number of channels supported by the RA1001Narrow Band radio is 20.

Enabling a channel (√) allows the channel to be set to an operating channel (**Channel Number**) and makes it available for channel searching. For example, if **Channel 1** is the operating channel and all other channels are enabled (√), the 8525 can roam through all 20 channels.

Channel Switch Speed

This parameter changes the threshold the 8525 uses to determine when communication quality with a base station is unacceptable. When this threshold is exceeded, the unit starts channel searching for a new base station.

Setting this parameter to "Slow" means a higher threshold – the 8525 is more tolerant of poor communication quality. When the channel quality of the vehicle-mount radio drops below 46%, the unit monitors the channel quality for 15 timeout periods before searching for a new channel. If **Channel Switch Speed** is set to "Fast", the current channel is only monitored for up to 2 time-out periods before channel switching begins.

Important: ***"Fast" switch speed is most effective where coverage areas are largely overlapping. If the coverage areas barely overlap, have dead spots, or if the 8525 frequently operates on the fringe of coverage, this parameter should be set to "Slow".***

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Channel Selection

Enabling (√) "Manual Select" allows you to set the channel search order the 8525 will use if communication quality drops and channel switching is required. If this parameter is enabled, the 8525 uses the channel switching lists specified in the **Manual Switch Table**. If this parameter is disabled (unchecked), the vehicle-mount uses a standard algorithm to decide which channel it should switch to in the event of poor channel quality.

Warning: ***It is not recommended that the "Manual Select" parameter be used without a clear understanding of how to order the channel sequences for optimum performance.***

Manual Switch Table

- Tap on the **Set Switch Table** button to display the **Manual** Switch Table dialogue box.

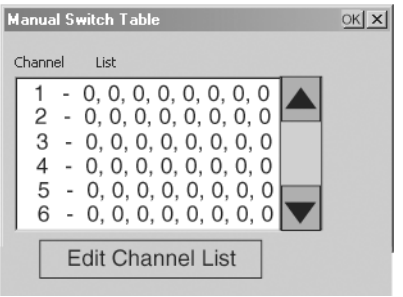

Figure 5.33 Manual Switch Table

This feature is used rarely. It is used when the order of channel switching needs to be tightly controlled. The values in the "Channel" column are completed for you with the enabled channels when this dialogue box is opened. For each corresponding enabled channel, the "List" column contains "0,0,0,0,0,0,0,0" values by default.

If communication quality falls below 46%, only the channels entered in the **Manual Switch Table** are considered for channel switching. The channel search is carried out in the order in which the channels were entered in the table.

To configure channel switching order for a particular channel:

- Highlight the channel you want to edit, and tap on the **Edit Channel List** button.

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Editing The Channel List

Figure 5.34 Edit Channel List

Only those channels that are enabled are displayed in the dropdown menus in the **Edit Channel List** dialogue box. The allowable values range from 0 to 20.

- Tap on the arrow next to dropdown menu to scroll through the available channels. Highlight the value you want to assign.
- Once you've assigned the switching order, tap on the **OK** button to close the dialogue box.

The channel list is added to the selected channel in the **Manual Switch Table** dialogue box.

5.5.7.3 Protocol Tab

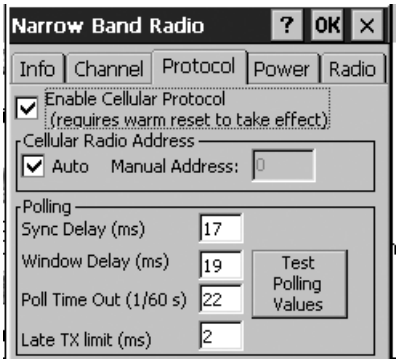

Figure 5.35 Protocol Tab

Enable Cellular Protocol

The value assigned to this parameter must be identical to the value assigned to the corresponding parameter in the Psion Teklogix Network Controller, Wireless Gateway or Base Station. A warm reset of the 8525 is required before this parameter can take effect.

If **Enable Cellular Protocol** is disabled (unchecked), the options in the **Cellular Radio Address** frame are displayed in grey text indicating that they cannot be accessed.

Cellular Radio Address

Auto Radio Address

If **Auto Radio Address** is enabled (√), the 8525 requests an automatically assigned radio address. **Manual Radio Address** is displayed in grey text indicating that it cannot be accessed.

Manual Radio Address

The value entered in the **Manual Radio Address** parameter is used to identify the 8525 over the radio link. A unique value from 1 to 3840 must be assigned for each unit.

Note: *This parameter is set to '0' (an out-of-range value) by default to block radio communication when the unit is initially powered up. This prevents several new terminals from attempting to communicate with the same default terminal number at initial power up. Once the default value is changed, it cannot be set back to '0'.*

Polling

The default values for the **Polling** parameters are dependent on the value assigned to the **Modulation / Baud Rate** parameter in the **Radio** tab.

Modulation / Baud Rate	Sync Delay	Window Delay	Poll Timeout
4 Level / 19200	17	20	20
4 Level / 9600	17	23	25
2 Level / 9600	17	19	22
2 Level / 4800	25	23	37

Table 5.3 Polling Parameters

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Sync Delay

Warning: ***This parameter should not be changed from its factory setting without a clear understanding of radio protocol timing.***

The Sync Delay parameter specifies the delay between the base station transmission and the first response window, measured in milliseconds. The value assigned to this parameter must be compatible with other terminals and base stations in the system. The allowable range for this parameter is between 1 and 40.

Window Delay

Important: ***The value assigned to this parameter should not be changed from the factory setting without a clear understanding of the timing of the radio protocol.***

This parameter specifies the amount of time (in milliseconds) the 8525 should add to each response window in order to accommodate the receive/transmit switching characteristics of the radio. The value assigned must be compatible with other units and base stations in the system. The default setting of 19 is based on the requirements of a 2 level modulation narrow band radio, operating at 9600 baud.

Poll Timeout

This parameter (in units of 16.6 ms) sets the time-out value used for automatic channel switching. “Poll Timeout” is the time during which the 8525 should detect at least one poll from a base station. As each “Poll Timeout” passes without a successful poll from the base station, the 8525 channel quality decreases. If the channel quality falls to below 46%, the terminal begins searching for a new channel.

A value from 1 to 200 can be assigned to this parameter.

Late TX Limit

The value entered for this parameter (measured in milliseconds) sets the maximum allowable deviation time from the start of a response window during which an 8525 can make a transmission. After this threshold, the transmission will not be attempted and the 8525 will try again at the next opportunity. For example, suppose this parameter is set to 5. From the beginning of the response window, the 8525 can be up to 5 milliseconds late sending a transmission. Beyond this threshold, the transmission is not attempted. The vehicle-mount waits for the next opportunity.

The allowable range for this parameter is from 1 and 10 – the default value is 2.

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Test Polling Values

Tapping on this button allows you to test the suitability of the polling values you've assigned before they are saved to memory.

5.5.7.4 Power Tab

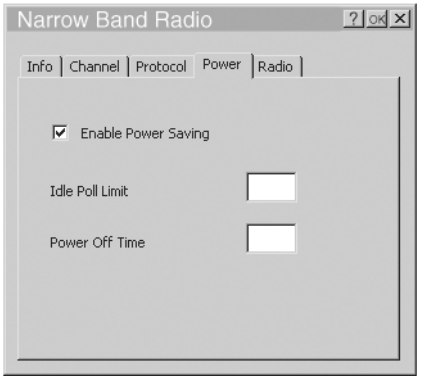

Figure 5.36 Power Tab

Enable Power Saving

When this parameter is checked (√), power saving is enabled.

Idle Poll Limit

Note: *The "Idle Poll Limit" parameter is only used when "Enable Power Saving" is enabled (√).*

This parameter determines how many transmit opportunities – base station polls with available response windows – must be consecutively skipped before the 8525 places the radio into power-down mode for power saving. The allowable range for this parameter is from 1 to 200. The default value is 10.

Lower values cause the vehicle-mount to enter power saving mode quickly, extending battery life but reducing 8525 responsiveness. Higher values increase responsiveness but decrease battery life.

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Power Off Time

This parameter determines the amount of time (in seconds) the 8525 radio stays in power-down mode when a power down period has been initiated. “Power Off Time” is only used when the “Enable Power Saving” parameter is enabled (√)

The allowable range for this parameter is 1 to 60.

5.5.7.5 Radio Tab

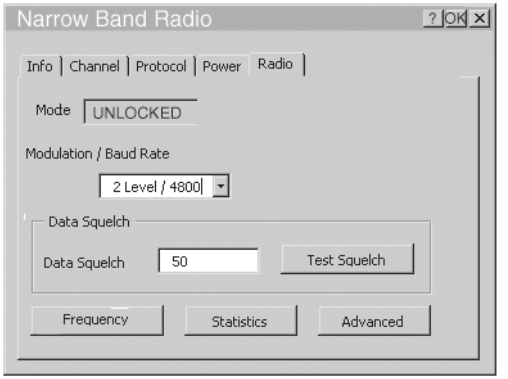

Figure 5.37 Radio Tab

Modulation/Baud Rate

The options listed in the “Modulation / Baud Rate” dropdown menu are: `2 Level/4800`, `2 Level/9600`, `4 Level/9600` and `4 Level/19200`. The value assigned to this parameter must be identical to the corresponding parameter in the Psion Teklogix Base Station. This parameter is stored in the radio’s non-volatile memory. The default value for “Modulation/Baud Rate” is `2 Level/9600`

Data Squelch

“Data Squelch” controls the radio receiver, cutting it off when the signal is too weak for reception of anything but noise. Receive Signal Strength Indicator values below the “Data Squelch” threshold prevent further processing of the receive signal while higher values allow further processing. The allowable range is 0 to 100 with a default value of 0.

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In noisy environments, this value can be increased to reject noise. In environments with less noise, this value can be decreased to allow the received signal and increase range. This parameter is stored in the radio's non-volatile memory.

Test Squelch

- Tap on the **Test Squelch** button to prompt the radio to use the "Data Squelch" value without committing it to the radio's non-volatile memory – in other words, to 'test' the value assigned to the "Data Squelch" parameter.

To commit the new "Data Squelch" value to the radio's non-volatile memory:

- Tap on the OK button – the dialogue box is closed and the new value is saved.

To discard the new value, and keep the old "Data Squelch" value:

- Tap on the **X** button at the top of the dialogue box. The old value is sent to the protocol driver.

Frequency Table

- Tap on the **Frequency** button to display the "Frequency Table" dialogue box.

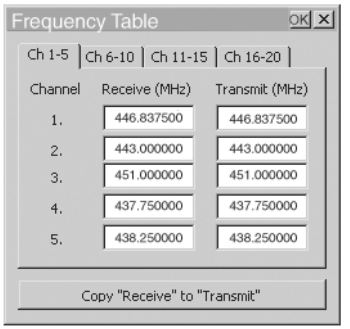

Figure 5.38

- Tap on the **Copy "Receive" to "Transmit"** button to copy the contents of the "Receive" fields into the corresponding "Transmit" fields.

When you tap on this button, a warning box is displayed asking **"Copy all the Rx frequencies to the Tx frequencies?"**

- Tap on the **Yes** button to go ahead or **No** to stop the copy process.

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Statistics

- Tap this button to display communication statistics.

Refer to “Statistics Screen” beginning on page 86 for details about this screen.

Advanced

This button launches the “Radio Test Application”.

5.6 Bluetooth Setup

Bluetooth is a global standard for wireless connectivity for digital devices and is intended for Personal Area Networks (PAN). The technology is based on a short-range radio link that operates in the ISM band at 2.4 GHz. When two Bluetooth-equipped devices come within a 2 meter range of each other, they can establish a connection. Because Bluetooth utilizes a radio-based link, it does not require a line-of-sight connection in order to communicate.

Note: *The Bluetooth radio card uses an internal antenna.*

- In the **Control Panel**, choose the **Bluetooth Device Properties** icon to display the **Bluetooth Manager** screen.

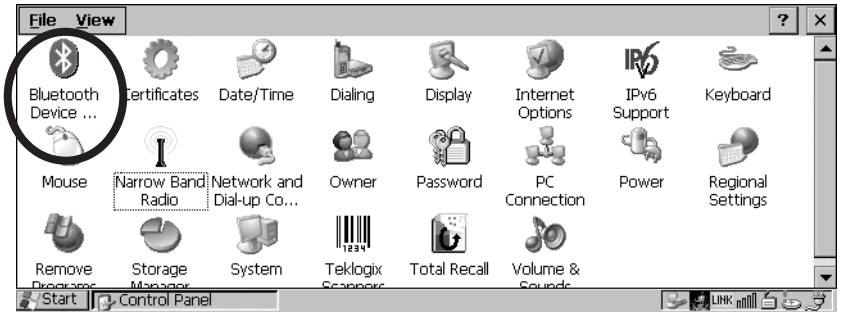


Figure 5.39 Bluetooth Icon

The **Bluetooth Manager** dialogue box is used to display the other Bluetooth devices with which you can communicate.

5.6.1 The Devices Tab

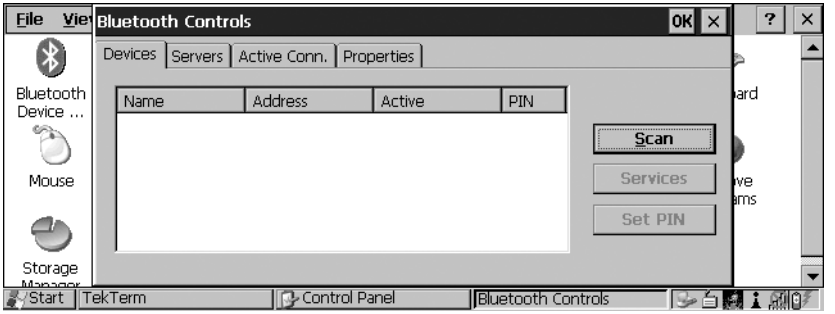
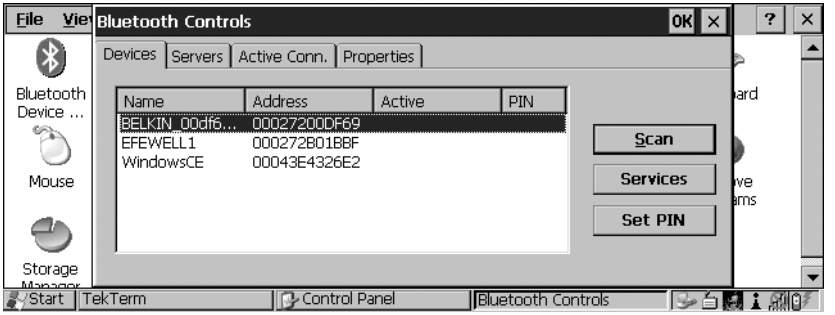


Figure 5.40 Bluetooth Controls Dialogue Box

Scan

- Click on the **Scan** button to list available devices.



Wait for the 8525 to complete its scan (approximately 20 seconds). When scanning starts, the **Scan** button will change to **Stop** – if necessary, you can tap on this button to stop the process. Once scanning is complete, all discovered devices will be displayed in the list box, with **Name**, **Address**, **Active** status, and **PIN** information.

Note: *During the scanning process, addresses are located first, followed by names. Only the names of devices that are within the Bluetooth radio coverage range will be retrieved.*

The **Active** column indicates whether any service is activated for that device. When a service is activated, the device is displayed in the list even when it is not detected during the scan.

The **PIN** column indicates whether you have a PIN (password) set for the device.

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At this point you can either query for services or set the PIN for each device. Once you highlight a device in the list box, both the Services and Set PIN buttons become available.

Services

A discovered device may display several service profiles that it can use to communicate, and you will want to activate the type you need. Supported profiles that can be activated include: DUN (Dial-Up Networking service), Printer (serial service), and LANPPP (LANAccessUsingPPP service). ASync (ActiveSync) is another available profile.

- To start the service scan, highlight a device in the Devices tab list, and then click on the Services button or double-click on the device entry.

Note: *If the remote device is out of reach or turned off, it can take a considerable amount of time for the Services dialogue box to appear – it may appear to be frozen.*

Once the device's service profiles are displayed in the Services list box:

- Highlight the desired service, and then click on Activate or Deactivate, as required.

Once the service is successfully activated, the assigned port (if applicable) will appear in the **Port** column of the *Services* list box. You can choose to use **BSP** or **COM** as the port name. BSP is the latest Microsoft Bluetooth stack standard, but older applications assume serial ports are COM. When using *COM* as the port name, the Bluetooth manager will try to find and use a free port between COM7 and COM9. When using *BSP* as the port name, BSP2 to BSP9 are available for use. The port is available as soon as it is activated.

Note: *The* **CH** *column shows the RFCOMM channel of the service IF the service is RFCOMM-based. This information is not generally needed except for debugging purposes.*

The **Authentication** and **Encryption** options can be changed only before activation. To change those after activation, deactivate the service first, then change the options.

Once a service is activated, all the information regarding the service, including the RFCOMM channel number, is saved in the registry. (Some remote devices may change their RFCOMM channel numbers when they reboot, so your saved setting may not work when the remote device is rebooted. In that case, you must deactivate the service and reactivate it to detect the current RFCOMM channel.)

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Set PIN

PINs can be set for each device by pressing the **Set PIN** button in the **Devices** tab, or you can skip this step and try to connect to the device first.

Important: ***The remote device must have authentication enabled, otherwise the PIN authentication will fail.***

- Highlight a device, click on the <**Set Pin**> button, and type the PIN.

You will receive a message, either that the PIN has been successfully validated or that it has been rejected.

If the PIN has been validated, an asterisk (*) appears in the PIN column in the *Devices* list box, indicating that this device has a PIN set. Once a PIN is entered, it is saved in the registry.

To remove the PIN:

- Tap on **Set PIN** and press <ENTER>.

If the 8525 attempts to connect to a remote device that has Authentication enabled and does not have a required PIN set, an *Authentication Request* dialogue box appears.

- Enter the PIN, and tap on **OK** to connect the devices.

5.6.2 The Server Tab

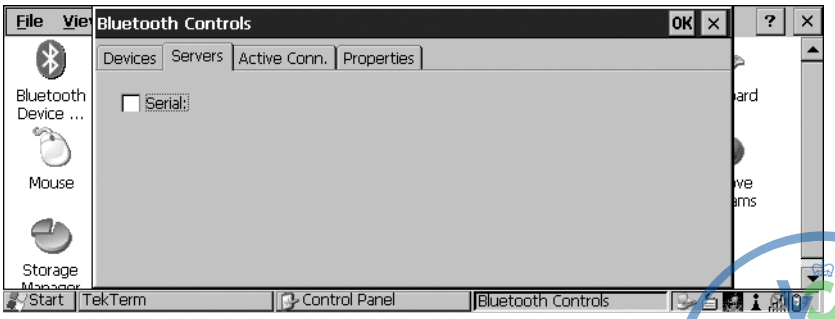

Figure 5.41 Bluetooth Servers Tab

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The Bluetooth connection is initiated from your 8525 to the remote device – therefore the 8525 is called the 'client' and the remote is called the 'server'. The Servers tab displays the server profiles that can be activated in your 8525. There is currently one server profile available: **Serial**.

- Tap on the checkbox to activate (√) the server, and it will display the associated port name beside the server name.

Once you activate a server profile, it is recommended that the 8525 be rebooted before you try to bond from a server.

Note: *You do not need to reboot if you are deactivating a server.*

5.6.3 The Properties Tab

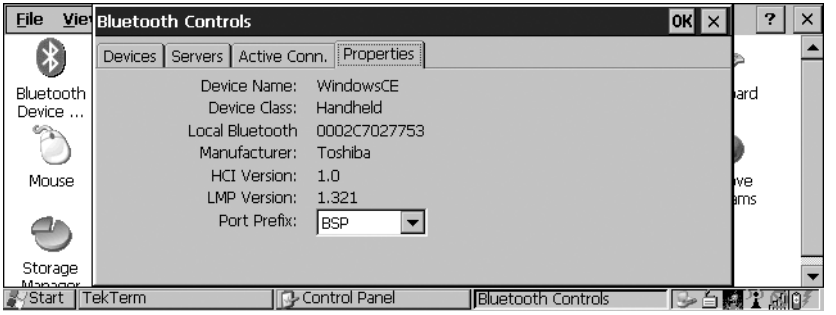

Figure 5.42 Bluetooth Properties Tab

The Properties tab displays information about your 8525, and provides some port options.

The **Device Name** field shows the device name of your 8525. This name can be changed (see the ***Note*** in this section for details).

Device Class shows the Class of Device (e.g. desktop, hand-held), which is always set to **Handheld**.

Local Bluetooth Address shows the address of your 8525 radio.

Port Prefix is used to set the port name to either **BSP** or **COM**. When the name is set to **BSP**, BSP2 to BSP9 are available for activated services (including the server). When **COM** is chosen, COM7 to COM9 are available.

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5.6.3.1 Active Conn. Tab

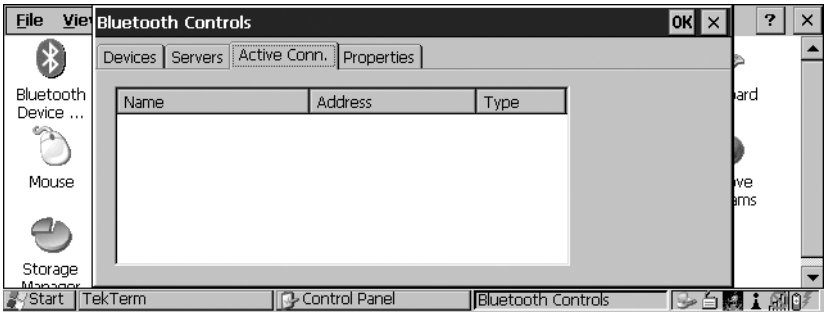

Figure 5.43 Bluetooth Active Conn. Tab

The **Active Conn.** tab lists the *Name*, *Address*, and *Type* of the currently active connections. The table is periodically updated while on display, but it can take a few seconds before it reflects the actual list of connections. The *Type* column of the table shows 'ACL' or 'SCO'. The Connection list table shows the connections for scanning as well as the service connections.

Note: *You can change the device-name and description of your radio by clicking on the* System *icon in* Control Panel*, which will open the* System Properties *dialogue box. Click on the* Device Name *tab to access the menu and change your settings. Then click on* **OK**.

Although the name will have changed in the Properties menu in Bluetooth Controls, the radio only reads it on boot-up. For the changes to take effect, you must reset the 8525.

5.6.4 The Bluetooth GPRS Phone

1. To connect to the internet using a GPRS phone equipped with a Bluetooth radio, begin by setting up the Bluetooth radio. The setup information is outlined beginning on page 98. Remember to choose the *modem* with which you want your 8525 to communicate from the Scan Device list.

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2. To set up the internet parameters, select the **Network And Dial-up Connections** icon from the **Control Panel**.

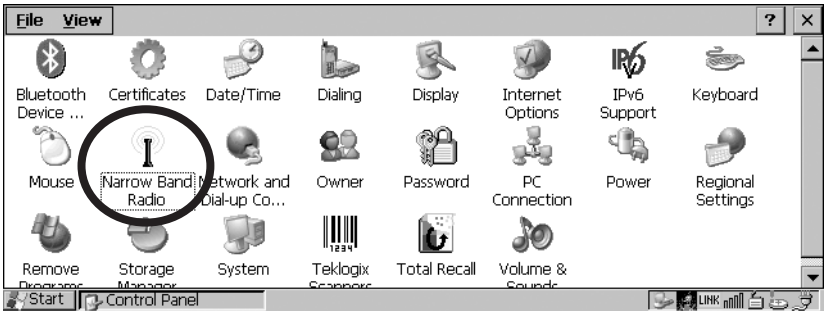

Figure 5.44 Network And Dial-up Connection Icon

3. Select the **Make New Connection** icon.

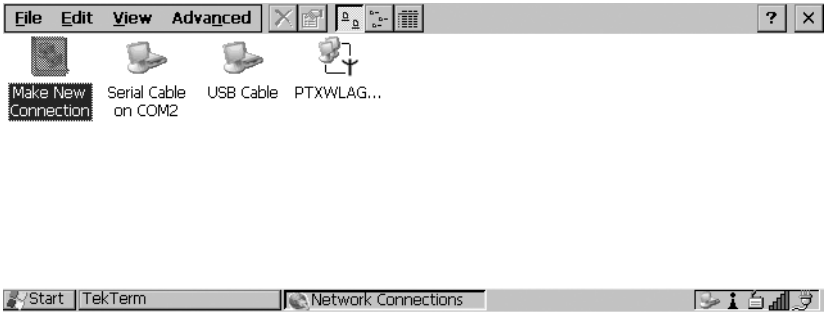

Figure 5.45 Creating A GPRS Connection

4. In the **Make New Connection** dialogue box, choose **Dial-Up Connection**. Enter a name for your GPRS network connection.^

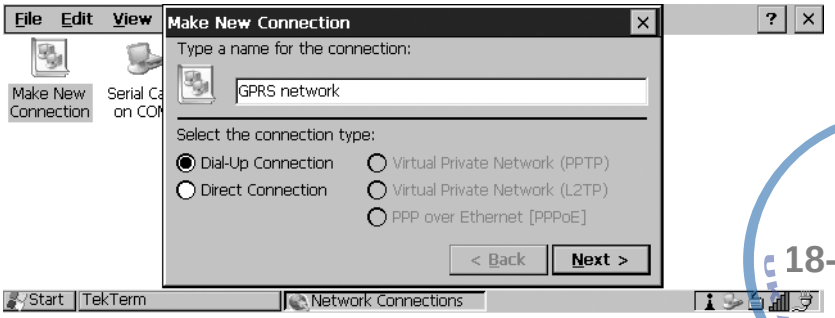

Figure 5.46 Setting Up The Connection

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5. Tap on the **Next>** button to display the **Modem** dialogue box.

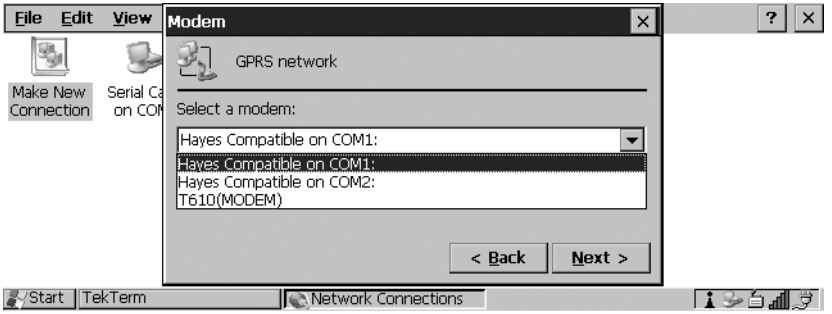

Figure 5.47 Setting Up The Modem

6. In the dropdown menu labelled **Select a modem:**, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the **Device Properties** dialogue box.

   The 8525 communicates with your phone and retrieves the parameters for the **Device Properties** dialogue box. The 8525 then disconnects.

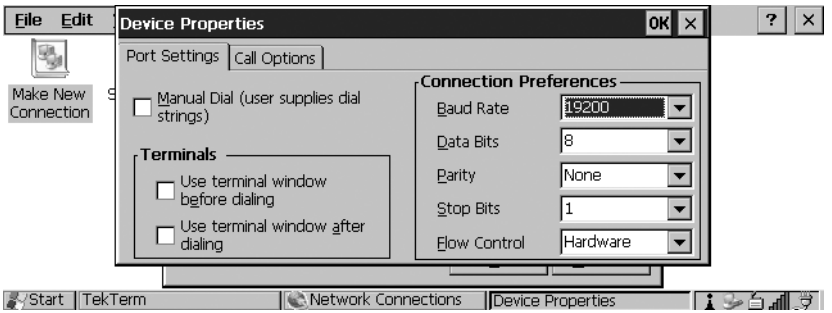

Figure 5.48 Port Settings

7. Under the **Call Options** tab, turn off **Cancel the call if not connected within...** and press <ENTER> to save your changes.

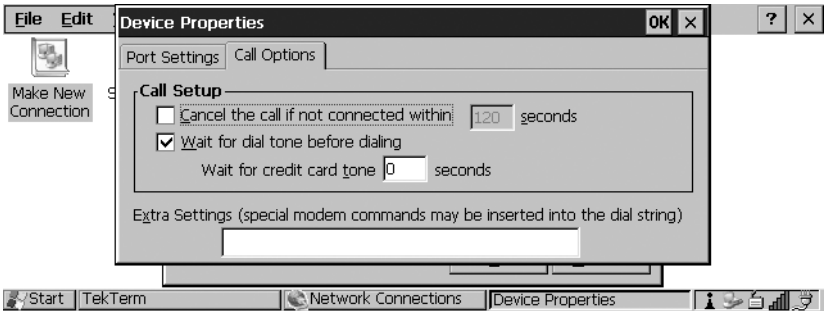

Figure 5.49 Call Options

8. In the **Modem** dialogue box, select the **Next>** button to display the **Phone Number** dialogue box.

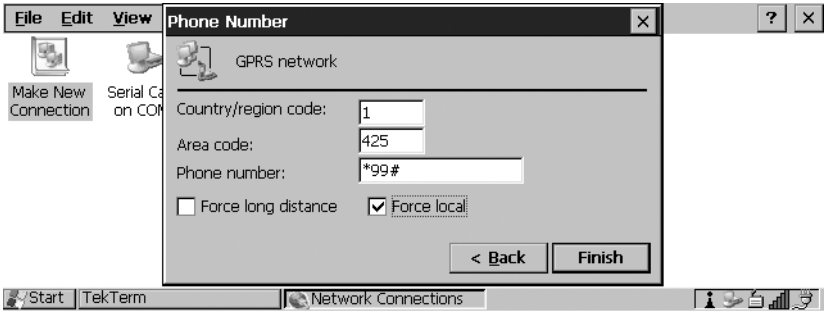

Figure 5.50 Setting The Phone Number

The phone number you enter is network carrier dependent. Once you've specified all the necessary information, choose the **Finish** button.

9. In the **Control Panel**, choose the **Dialing** icon.

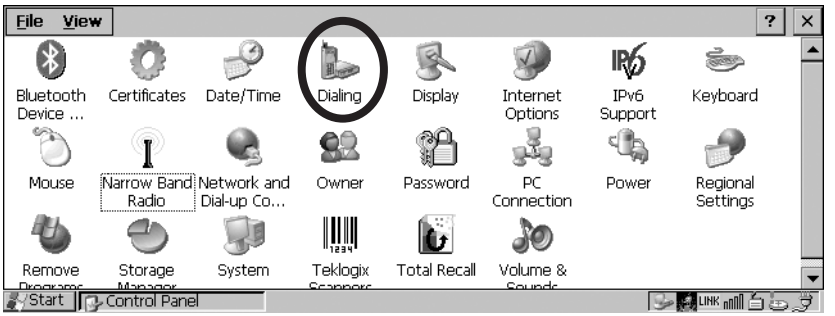

Figure 5.51 Dialing Icon

10. The values in the **Dialing Properties** dialogue box need to be edited according to your network carrier specifications.

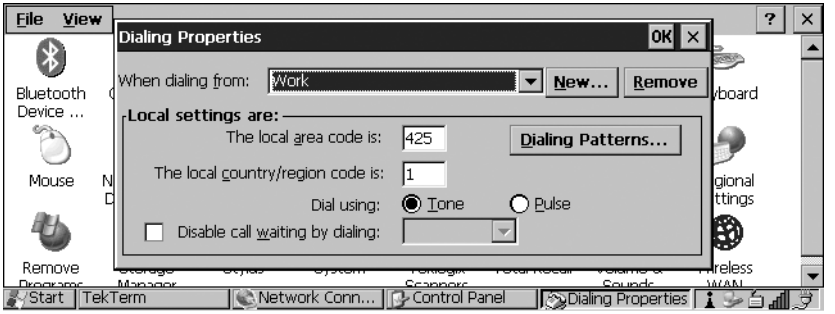

Figure 5.52 Setting Up Dialing Properties

Once you've edited this dialogue box to reflect your network carrier requirements, press <ENTER> to save your changes.

11. At this point, you'll need to return to the **Control Panel** and select the **Network and Dial-up Connections** icon.

12. In the network connection window, the new network configuration – in this case – **GPRS Network** – is displayed. Choose the new icon.

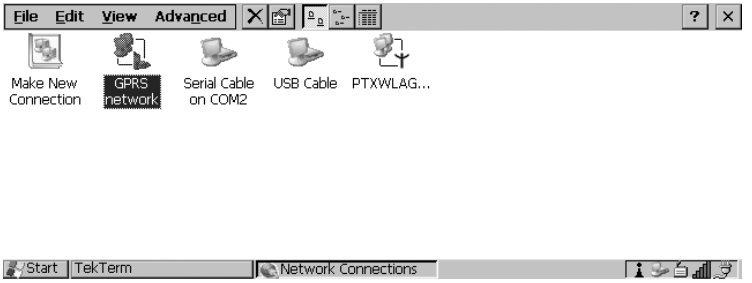

Figure 5.53 GPRS Network Connection

This onscreen message indicates the status of your connection – connected, disconnected, error messages, and so on.

Figure 5.54 Successful Connection

- Select the **Hide** button to move this message to the background.

You can now access the internet.

Figure 5.55 Accessing The Internet

5.7 Total Recall

Total Recall is a Psion Teklogix utility developed to maintain applications and setting over cold boots. This utility is based on a backup and restore concept and is extended to incorporate power advanced features.

- In the **Control Panel**, choose the **Total Recall** icon.

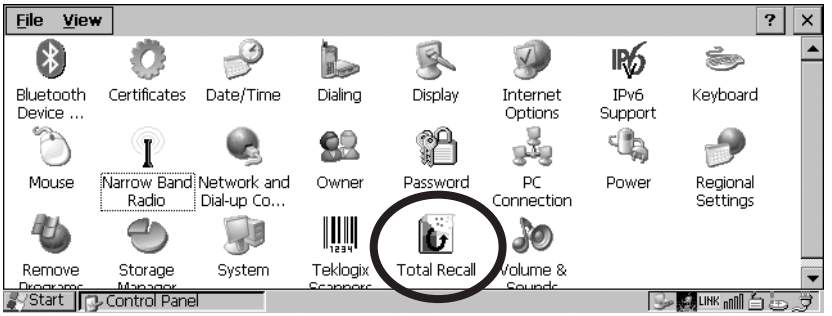

Figure 5.56 Total Recall Icon

5.7.1 Creating A Backup Profile

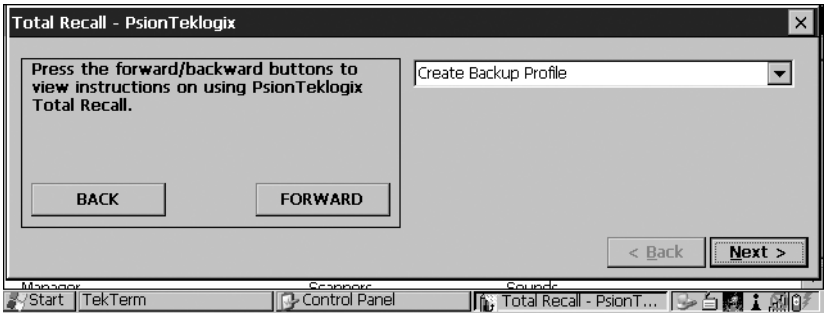

Figure 5.57 Backup Profile

In the dropdown menu, you can choose from four options: **Create Backup Profile**, **View Selected Profile**, **Restore Selected Profile** and **Delete Selected Profile**. Keep in mind however that until a profile is created, the only available option is **Create Backup Profile**.

Help Files – BACK And FORWARD Buttons

The **BACK** and **FORWARD** buttons allow you to scroll through the help files that provide steps to guide you through the Total Recall operation.

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- Tap on the **Next>** button to begin the process.

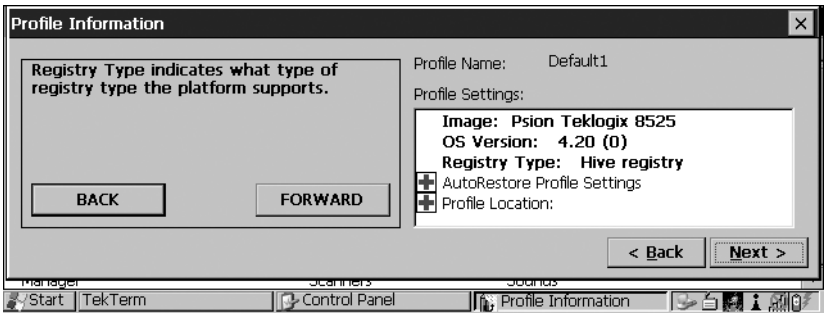

Figure 5.58 Profile Details

Profile Information

This dialogue box lists the possible storage destinations for the profile file.

- To begin, type a name for the profile in the field labelled **Profile Name**.

This dialogue box also lists the image type – **OS Version** and **Registry Type** for the 8525.

- Tap on the ⊞ icon to expand your settings for **AutoRetore Profile** and **Profile Location**.

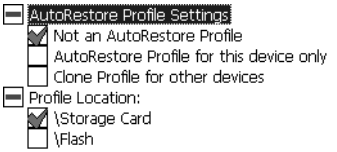

Figure 5.59 Profile Options

- **Not an AutoRestore Profile** – creates a backup that is manually restored by the operator.
- **AutoRestore Profile for this device only** – creates a profile that automatically restores itself following a cold boot.
- **Clone Profile for other devices** – creates a profile that automatically restores after resuming from a cold boot, but it will not contain the touch screen calibration coordinates or the Wireless radio settings.
- **Profile Location** – allows the operator to specify where the profile is to be saved. The location for the profile will typically be Flash or a Storage card.

- Tap on the **Next** button to display the next dialogue box – **Add Files**.

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Add Files

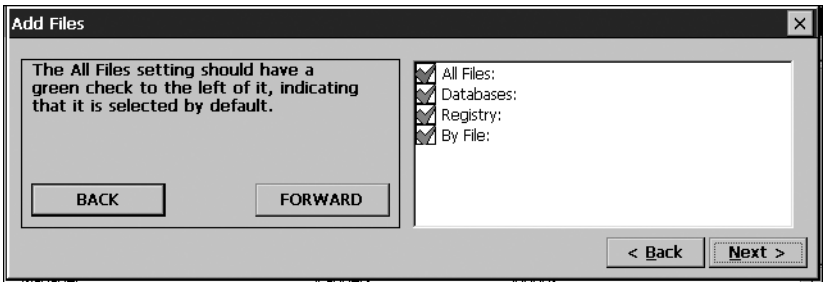

Figure 5.60 Adding Files

By default, **All Files:** is selected so that all installed or copied files, database entries, and the Registry will be saved. You can, however, limit the backup to database, and/or the registry only.

The backup **By Individual File** option allows you to select the exact file or files you want to backup.

The **By File Type** option allows you to select by predefined file types.

- Tap on the **Next>** button to view your selections.

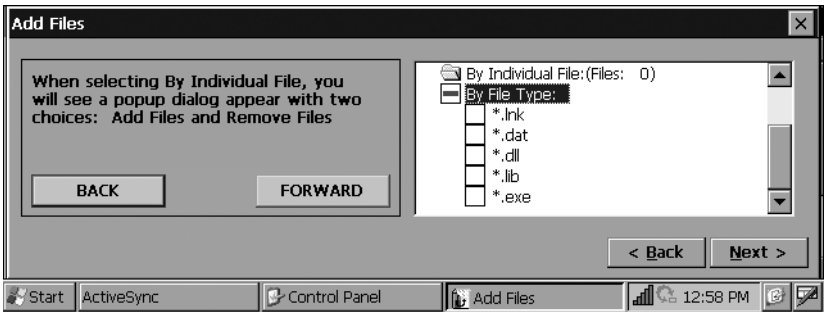

Figure 5.61 By File Type

View Selections

Depending on what you have selected for inclusion in your profile, you can view a list of the selected files, databases and/or registry.

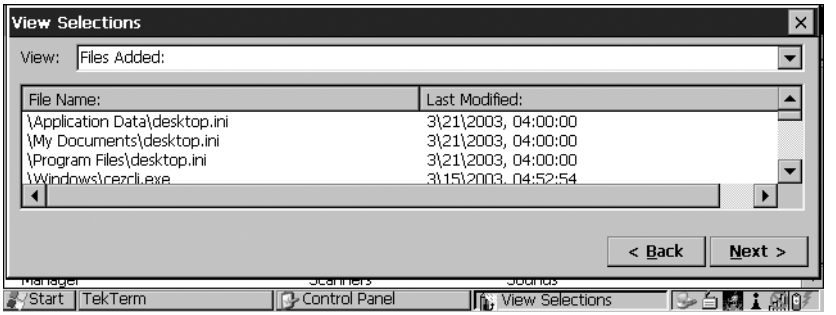

Figure 5.62 Viewing Selections

- Tap on the **Next>** button to perform the operation.

Performing The Backup

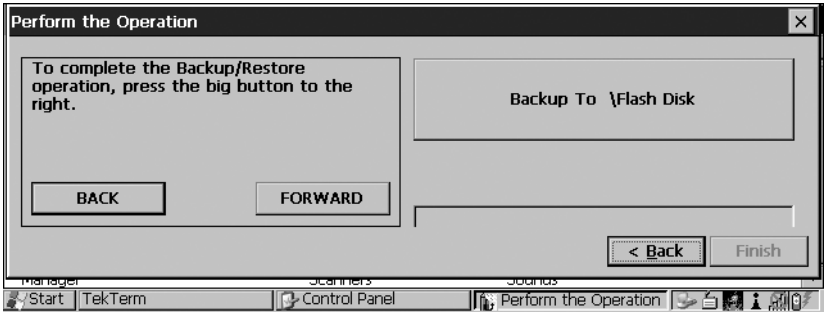

Figure 5.63 Performing The Backup

- Tap on the **Backup To \Flash** or **\Storage Card** button to start the process and create a profile.

5.7.2 Restoring A Profile

To manually restore a profile:

- Choose **Restore Selected Profile** from the dropdown menu, and select the **Profile Name** displayed in the drop down box.

Note: *You can also manually restore an auto restore profile located in flash or a storage device.*

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5.8 IPv6 Support

The **IPv6 Support** icon in the **Control Panel** allows you to activate IPv6 network support on your unit. This internet protocol specification (version 6) supports 128-bit IP addresses, replacing version 4.

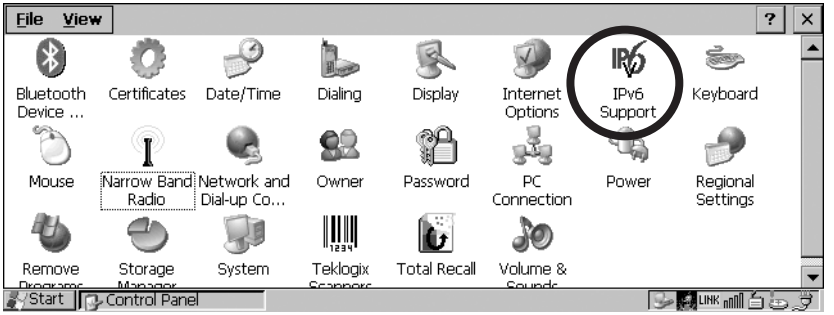

Figure 5.64 IPv6 Support Icon

- Tap on the icon to display the **IPv6 Support** dialogue box.

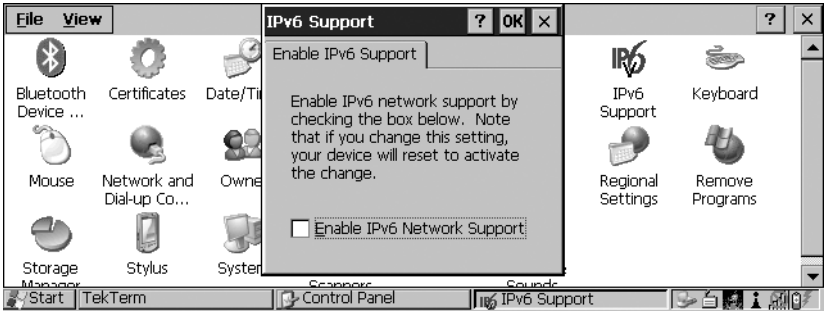

Figure 5.65 IPv6 Support Tab

- Tap the stylus on the checkbox next to **Enable IPv6 Network Support** to enable (√) this internet protocol.

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5.9 Scanner Properties Setup

The **Teklogix Scanners** icon in the **Control Panel** provides dialogue boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize.

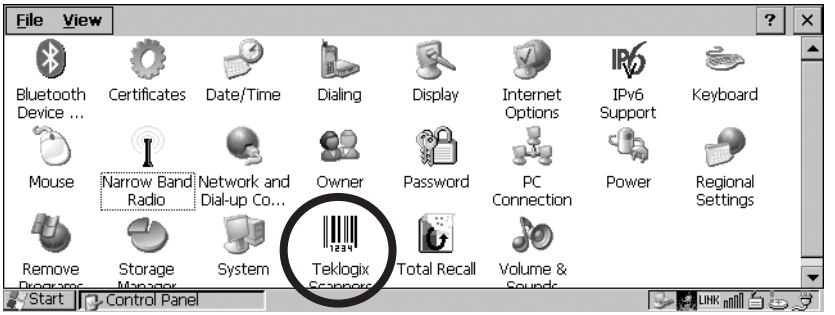

Figure 5.66 Teklogix Scanners Icon

5.9.1 Scanner Options

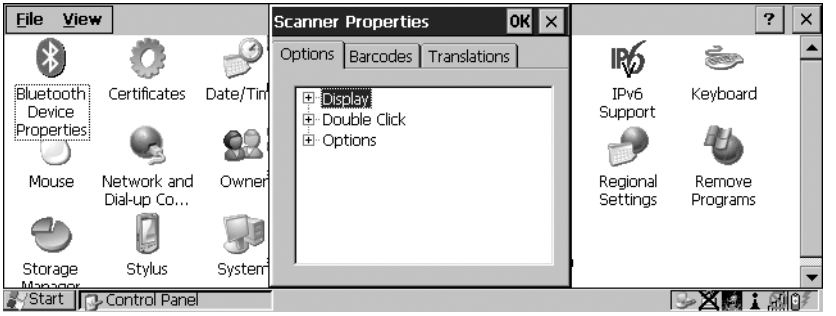

Figure 5.67 Bar Code Options

To display the sub-menus available in the **Options** tab:

- Tap on the + symbol to the left of the option with which you want to work.

To change a parameter:

- Double-tap on the parameter, *or* press the <SPACE> key.

  If a field requires text entry, a text field is displayed in which you can type the appropriate value.

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Display Parameters

Scan Result

When this parameter is enabled (set to 'ON'), the type of bar code and the result of the scan appear on the screen. Note that this information is only displayed after a successful decode and is visible only while the scanner trigger is pressed. When the trigger is released, this information is cleared from the screen.

Scan Indicator

When this parameter is enabled (set to 'ON'), the laser warning logo appears on the display whenever the scanner is activated.

Scan Result Time (sec)

The value assigned to the "Scan Result Time (sec)" parameter determines how long the scan results of a successful scan are displayed on the screen. Time is measured in seconds, and a value of "0" (zero) disables the parameter.

Note: *To remove the scan result from the screen before the "Result Time" has expired, point the scanner away from the bar code and press the trigger.*

Scan Good

This parameter determines whether or not the 8525 emits an audible scanner 'beep' when a 'good' or successful scan is performed. Set this parameter to either 'ON' to enable the beeper or 'OFF' to disable it.

Scan Bad

This parameter determines whether or not the 8525 emits an audible scanner 'beep' when a 'bad' or unsuccessful scan is performed. Set this parameter to either 'ON' to enable the beeper or 'OFF' to disable it.

Scan Log File

If this parameter is enabled, the input barcode and the modified/translated output bar code are logged in the file \Flash Disk\ScanLog.txt. Keep in mind that if the 'Scan Log File' is enabled, there is a slight performance effect when performing multiple scans since the log file is written to persistent storage.

Double Click Parameters

Click Time (msec)

This parameter controls the maximum gap time (in milliseconds) for a double-click. If the time between the first and second clicks of the scanner trigger is within this time, it is considered a double-click. The allowable range is `0` to `1000`. A value of zero disables this feature.

A double-click produces different results depending on whether or not a value is assigned in the "Click Data" parameter. When a value is ***not*** assigned for the "Click Data", double-clicking the scanner trigger overrides the target dot delay set in the "Dot Time" parameter and initiates a normal scan sweep. If a value ***is*** assigned for the "Click Data" parameter, double-clicking the scanner trigger inserts the "Click Data" value rather than initiating a scan.

Click Data

For both integrated and external scanners, this parameter determines which character is sent to the application installed in your 8525 following a double-click. A dialogue box appears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

Pressing the <ESC> key in this dialogue box resets the data to zero.

Options

Dot Time (msec)

The value selected for "Dot Time (msec)" determines (in milliseconds) how long the targeting dot remains on before the scanner switches to a normal scan sweep. The allowable values are: `0, 0.1, 0.5, 1.0, 1.5, 2.0, 2.5` and `3.0` seconds. A value of `0` (zero) disables the target dot.

Short Code

When enabled (set to 'ON'), this parameter allows scanning of short I 2 of 5 bar codes (2 characters). When disabled, these short bar codes are rejected.

Enabling "Short Code" may reduce the robustness of the decoding since the 8525 must decode more potential bar codes; it is therefore not recommended for general-purpose bar codes with 4 or more characters.

Verify

The value entered for this parameter determines the number of correct additional decodes required *after* the initial decode before a bar code is accepted. Higher values significantly increase the time it takes to decode a bar code but also improve the reliability of the decoded bar code.

Security

This parameter controls the tolerance for decoding edge-to-edge bar codes (Code 93, Code 128, UPC/EAN). Lower values have a lower tolerance for misreads, but they also increase the time it takes to decode the bar code. The default value of `30` is generally a good compromise setting.

5.9.2 Bar Codes

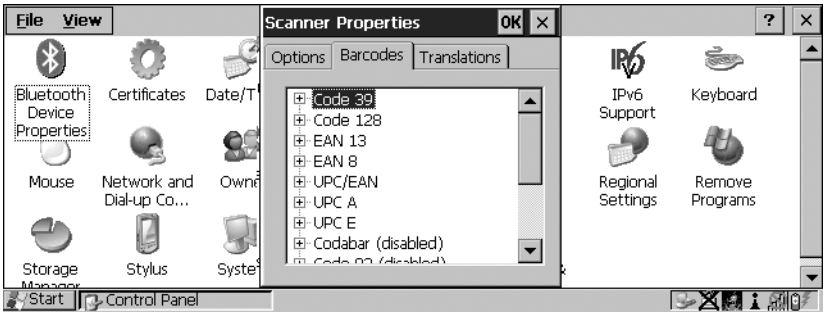

Figure 5.68 Bar Code Selection

All the available bar code symbologies can be selected from this tab.

Important: ***To improve the decode speed and performance, enable (set to 'ON') only those codes that are required by the application.***

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The bar code settings do not affect the operation of external decoded scanners. These scanners must be configured by scanning special configuration bar codes. These configuration bar codes affect the communication speed or data format between the scanner and the 8525 and must not be changed. The scanner manufacturer provides programming manuals for configuration purposes.

- For Symbol, refer to “Programming Guide P300”.
- For PSC, refer to “Powerscan Programming Guide (PSC)”.

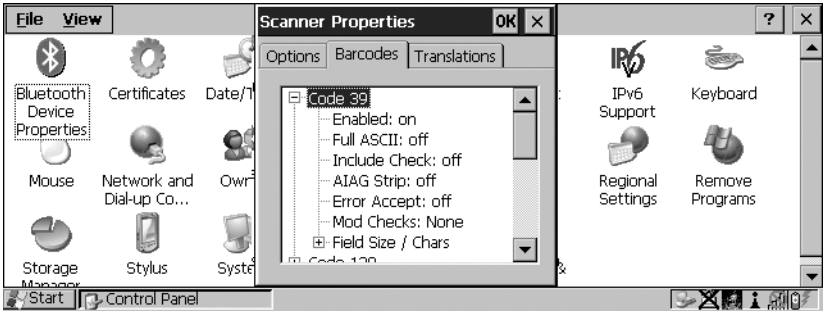

Figure 5.69 Code 39 Bar Code Settings

A ‘plus’ sign (+) to the left of the each bar code listed in this **Barcodes** tab indicate that that a sub-menu of parameters is attached. To work with a sub-menu:

- Tap on the ‘plus’ sign (+) to display the sub-menu.
- To change a parameter value, double-tap on the parameter *or* press the <SPACE> key.

5.9.2.1 Code 39 Settings

Enabled

Set this parameter to ‘on’ to enable Code 39 or ‘off’ to disable it.

Full Ascii

If this parameter is enabled (set to ‘ON’), the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Include Check

If this parameter is enabled (set to ‘ON’), the check digit is included with the decoded bar code data.

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AIAG Strip

If this parameter is enabled (set to 'ON'), the AIAG data identifier is removed from each decoded Code 39 label. The data identifier occurs in the first position next to the Code 39 start character. It can be a single alphabetic character or a series of numeric digits followed by an alphabetic character. This identifier defines the general category or specific use of the data contained in the rest of the bar code.

Note: *If your unit is operating with the Psion Teklogix TESS application, this parameter should* ***not*** *be used in conjunction with the TESS AIAG feature. This is because the 8525 vehicle-mount performs the strip function before it processes the data through the AIAG feature; if the prefix is stripped, the data is not identified as AIAG.*

Error Accept

If the "Err Accept" and "AIAG Strip" parameters are enabled (set to 'ON'), all label data without an AIAG identifier character is accepted. If the "Err Accept" parameter is disabled and the "AIAG Strip" parameter is enabled (set to 'ON'), the label data is not accepted.

Mod Checks

Mod 43 Check

If this parameter is enabled (set to 'ON'), the Mod 43 check digit is calculated.

Mod 10 Check

If this parameter is enabled (set to 'ON'), the Mod 10 check digit is calculated.

None

If you choose 'None', a check is not executed.

Field Size/Chars

Field Size

The field size is the length of the field after the first character is stripped and the prefix and suffix characters are added. If the field size is non-zero, only bar codes of that length are passed through.

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialogue box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

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Pressing the <ESC> key in this dialogue box resets the data to zero.

Suffix Char

Note: *The appended character is treated as any other keyboard character. For example, if <BKSP> is pressed, the usual action for that key is performed. If your unit is operating with the Psion Teklogix ANSI emulation application, the 8525 transmits the escape sequence associated with the function immediately after the bar code data.*

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialogue box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Pressing the <ESC> key in this dialogue box resets the data to zero.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.

Note: *For Code 39 bar codes, the "AIAG Strip" is performed before the "Strip Leading".*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.9.2.2 Code 128 Settings

Enabled

Set this parameter to 'on' to enable Code 128 or 'off' to disable it.

Include Sym

Setting "Include Sym" to 'ON' causes the group separator(s) and start code contained in this type of bar code to be displayed on the screen.

Note: *This option is available only when 'EAN/UCC 128' is selected.*

Variations

When using Code 128, you can choose the variation or type of bar code variation the scanner will recognize. The options available are `Standard`, `UCC` and `EAN/UCC`. These options are described below.

Standard
Enable (set to 'ON') "Standard" if Code 128 is desired.

UCC 128
"UCC" is a variation of Code 128.

EAN/UCC 128
To successfully scan this type of bar code, "EAN/UCC" must be enabled (set to 'ON'). "EAN/UCC" bar codes include group separators and start codes.

Field Size/Chars
Refer to the description beginning on page 119 for details.

5.9.2.3 EAN 13 Settings

Enabled
Set this parameter to 'on' to enable EAN 13 or 'off' to disable it.

Include Country
If this parameter is enabled (set to 'ON'), the country code is included with the decoded bar code data.

Include Check
If this parameter is enabled (set to 'ON'), the check digit is included with the decoded bar code data.

Addendum
Important: ***Before "Addendum" can take effect, the "Short Code" parameter in the Options menu (see page 116) must be enabled (****set to 'ON'****).***

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides three options: `Disabled`, `Optional` and `Required`. Depending on the value chosen for this parameter, an addendum is recognized or ignored.

When "Addendum" is set to `Disabled`, the scanner does not recognize an addendum. If this parameter is set to `Optional`, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to `Required`, the scanner does not accept the main bar code without an addendum.

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Prefix/Suffix Chars

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialogue box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Pressing the <ESC> key in this dialogue box resets the data to zero.

Suffix Char

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialogue box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Pressing the <ESC> key in this dialogue box resets the data to zero.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.

Note: *The appended character is treated as any other keyboard character. For example, if <BKSP> is pressed, the usual action for that key is performed. If your 8525 is operating with the Psion Teklogix ANSI emulation application, the vehicle-mount transmits the escape sequence associated with the function immediately after the bar code data.*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.9.2.4 EAN 8

Enabled

Set this parameter to ‘on’ to enable EAN 8 or ‘off’ to disable it.

Include Check

If this parameter is enabled (set to “Y”), the check digit is included with the decoded bar code data.

Addendum

Important: ***Before "Addendum" can take effect, the "Short Code" parameter in the Options menu (see page 116) must be enabled (set to 'ON').***

Refer to "Addendum" on page 121.

Prefix/Suffix Chars

See "Prefix/Suffix Chars" on page 122.

5.9.2.5 UPC And EAN Settings

Enabled

Set this parameter to 'on' to enable UPC And EAN or 'off' to disable it.

Field Size/Char

Refer to page 119 for details.

5.9.2.6 UPC A Settings

Enabled

Set this parameter to 'on' to enable UPC A or 'off' to disable it.

Include Number Sys

If this parameter is enabled (set to 'ON'), the number system digit is included with the decoded bar code data.

Include Check

If this parameter is enabled (set to 'ON'), the check digit will be included with the decoded bar code data.

Addendum

Important: ***Before "Addendum" can take effect, the "Short Code" parameter in the Options menu (see page 116) must be enabled (set to 'ON').***

Refer to "Addendum" on page 121.

Prefix/Suffix Chars

Refer to page 122 for details.

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5.9.2.7 UPC E Settings

Enabled

Set this parameter to ‘on’ to enable UPC E or ‘off’ to disable it.

Convert to UPC-A

Setting this parameter to ‘ON’ results in a non-standard decoding that returns 12 digits from the 6 digit UPC E bar code.

Include Number Sys

If this parameter is enabled (set to ‘ON’), the number system digit is included with the decoded bar code data.

Include Check

When enabled (set to ‘ON’), the check digit is included with the decoded bar code data.

Addendum

Important: ***Before “Addendum” can take effect, the “Short Code” parameter in the Options menu (see page 116) must be enabled (****set to ‘ON’****).***

Refer to “Addendum” on page 121.

Prefix/Suffix Chars

Refer to page 122 for details.

5.9.2.8 Codabar

Enabled

Set this parameter to ‘on’ to enable Codabar or ‘off’ to disable it.

Field Size/Char

Refer to page 119 for details.

5.9.2.9 Code 93

Enabled

Set this parameter to ‘on’ to enable Code 93 or ‘off’ to disable it.

Field Size/Char

Refer to page 119 for details.

5.9.2.10 Code 11

Enabled

Set this parameter to ‘on’ to enable Code 11 or ‘off’ to disable it.

Include Check

If “Include Chk” is enabled (set to ‘ON’), the check digit is included with the decoded bar code data.

Check Digits

This parameter can be set to `None`, `One Check Digits` or `Two Check Digits`.

If this parameter set to `One Check Digits`, it is assumed that the last digit is a check digit.

If this parameter is set to `Two Check Digits`, it is assumed that the last two digits are check digits.

Field Size/Chars

Refer to page 119 for details.

5.9.2.11 Interleaved 2 of 5

Enabled

Set this parameter to ‘on’ to enable Interleaved 2 of 5 or ‘off’ to disable it.

Mod 10 Check

If this parameter is enabled (set to ‘ON’), the Mod 10 check digit is calculated. This calculation is the same as the Code 39 Mod 10 check digit.

ITF Check

If this parameter is enabled (set to ‘ON’), the ITF-14/16 Mod10 check digit is calculated.

Include Check

If this parameter is enabled (set to 'ON'), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to page 119 for details.

5.9.2.12 MSI Plessey

Enabled

Set this parameter to 'on' to enable MSI Plessey or 'off' to disable it.

One Check Digit

If this parameter is enabled (set to 'ON'), it is assumed that the last digit is a check digit.

Include Check

If this parameter is enabled (set to 'ON'), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to page 119 for details.

5.9.2.13 Discrete 2 of 5

Mod 10 Check

If this parameter is enabled (set to 'ON'), the Mod 10 check digit is calculated. This calculation is the same as the Code 39 Mod 10 check digit.

ITF Check

If this parameter is enabled (set to 'ON'), the ITF-14/16 Mod10 check digit is calculated.

Include Check

If this parameter is enabled (set to 'ON'), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to page 119 for details.

5.9.2.14 IATA 2 of 5

Mod 10 Check

If this parameter is enabled (set to 'ON'), the Mod 10 check digit is calculated.

ITF Check

If this parameter is enabled (set to 'ON'), the ITF-14/16 Mod10 check digit is calculated.

Include Check

If this parameter is enabled (set to 'ON'), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to page 119 for details.

5.9.3 Translations

Figure 5.70 Translation Tab

- In the **Translation** tab, choose the **Add** button.

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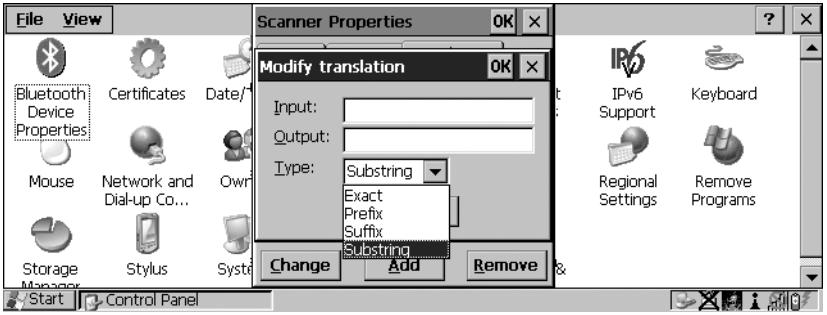

Figure 5.71 Translation Dialogue Box

Input

This value is compared with the decoded bar code reading. If there is a match, the "Output" string is translated into the decoded bar code.

Output

If there is a match between the decoded bar code and the corresponding "Input" string, the decoded bar code will be translated into the "Output" string. This string entry parameter can be null, or it may contain any combination of standard and special characters (e.g., function keys, <ENTER>, etc.).

Type

The value chosen from this dropdown menu determines what is compared with the decoded bar code reading – the beginning of decoded bar code, the end of decoded bar code, the entire decoded bar code or anywhere within the decoded bar code (default).

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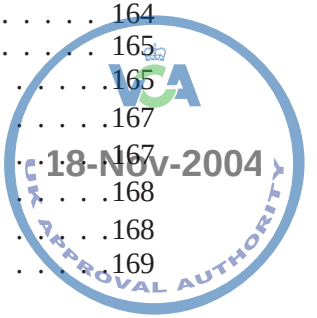

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6.1 The Tekterm Application

Tekterm is a powerful emulation application ideally suited for real time data transaction applications associated with mainframes and servers. The 8525 includes unique features that support Tekterm – a Psion Teklogix application that has the ability to maintain multiple simultaneous sessions with a variety of host computers.

6.2 Additional Keyboard Functions

In addition to the standard keyboard functions (see “The Keyboard” on page 29), Tekterm supports function keys, softkeys and macro keys.

6.2.1 Function Keys And Softkeys

6.2.1.1 Function Keys

The 8525 is equipped with a series of function keys each of which is defined in the application software.

Accessing Function Keys <F1> to <F10>

Function keys <F1> to <F10> can be directly accessed by pressing the function keys labelled in *yellow* along the top of the keyboard. No key combination is required.

Accessing Function Keys <F11> To <F20>

These keys are labelled in *orange* in the top-left corner of the function keys. To access these keys, press the <ORANGE> key followed by <F1> to <F10>.

- To access function key <F11>, press the <ORANGE> key followed by <F1>.
- Press <ORANGE> <F2> to access function key <F12>, and so on.

Accessing Function Keys <F21> To <F30>

These keys are labelled in *blue* in the top-right corner of the function keys. To access these keys, press the <BLUE> key followed by <F1> to <F10>.

- To access function key <F21>, press the <BLUE> key followed by <F1>.
- Press <BLUE> <F2> to access Function key <F22>, and so on.

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6.2.1.2 Softkey Function Keys

To speed the process of moving through menus and changing parameters, function keys <F1> to <F5> have been programmed to perform specific actions in the Tekterm menus. Table 6.1 describes these function keys.

These softkeys can be reprogrammed to perform different functions within TESS and ANSI applications.

Important: ***Tapping the stylus on the appropriate softkey label executes the function of the softkey providing that the labels are visible at the bottom of the 8525 screen. See "Softkeys" on page 164 if they are not visible.***

Function Key	Softkey Function
<F1>	NEXT – Displays the next sub-menu
<F2>	PREV – Displays the previous menu.
<F3>	DEFLT – Restores parameters to default settings – even after pressing <F4> to save the changes.
<F4>	SAVE – Saves a change to a parameter value.
<F5>	LITRL – Literal mode allows special characters to be entered in a string parameter such as macro key strings.

Table 6.1 Softkeys

Note: *The SAVE onscreen label only appears when a parameter value has been changed and has not yet been saved.*

6.2.2 Macro Keys

Important: ***Refer to "Keyboard Macro Keys" on page 73 for details about creating macros.***

8525 vehicle-mounts are equipped with a twelve macro keys that can be programmed to replace frequently used keystrokes, along with the *function* of executable keys like the <ENTER> key, the <BKSP> key, any function key and arrow key, and so on.

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Macro Keys <M1> To <M12>

These keys are displayed in *blue* print across the top row of alpha keys and the first two alpha keys in the second row on the keyboard.

To access a macro key, press the <BLUE> key followed by the appropriate alpha key. For example, on a ***Qwerty*** keyboard:

- Press <BLUE> <Q> to access macro key <M1>.
- To access <M2>, press <BLUE> <W>, and so on.

6.3 Changing The Screen Font Size

To cycle through the available screen fonts:

- Press <CTRL> <ALT> <F>.

6.4 Panning The Screen Contents

If the content of a screen is too large to fit in the margins of the 8525 display, the content can be *panned* or shifted to bring the information outside the margins into view. Normally, the Arrow keys move the cursor around the screen in the direction of the arrow pressed. However, if you lock the <BLUE> key 'on', you can pan the entire contents of the screen.

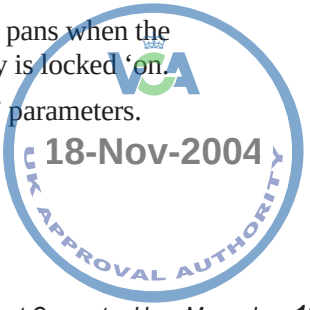
Panning relies on the values set in the "Use Increment", "X Increment" and "Y Increment" parameters to determine the number of columns (spaces) and rows (lines) the screen contents shift.

- In the "More Parameters" menu, position the cursor on "View Manager" and press <F1>.
- First, enable the "Use Increment" parameter – set it to "Y".

"X Increment" determines the number of columns (spaces) the screen pans when the <BLUE> key is locked 'on' and the <LEFT> or <RIGHT> arrow key is pressed.

"Y Increment" determines the number of rows (lines) the screen pans when the <UP> or <DOWN> arrow key is pressed when the <BLUE> key is locked 'on'.

- Assign a value to the "X Increment" and "Y Increment" parameters.



To pan the screen contents:

- Press the <BLUE> key twice to lock it 'on'. It will be displayed in upper-case letters – BLUE – in the taskbar at the bottom of the screen.
- Press the <RIGHT>, <LEFT>, <UP> or <DOWN> arrow key.

Note: *Pressing the <LEFT> arrow pans the screen to the right, pressing the <RIGHT> arrow pans the screen to the left, and so on.*

Once you're done:

- Press the <BLUE> key a third time to unlock or turn it off.

6.5 The Task Manager–Switching Between Applications

To display the Task Manager screen:

- Tap on Task Manager in the Start Menu.

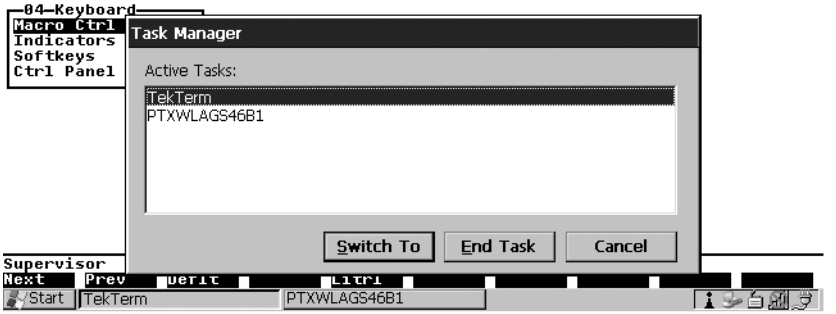


Figure 6.1 Task Manager Screen

Note: ***A shortcut*** *– to bypass the* Start Menu *and go directly to the 'Task Manager' screen, press <ALT> <ESC>.*

To switch between applications:

- Highlight the application with which you want to work.
- Tap on the Switch To button.

To end or close an application:

- Highlight the application you want to end, and tap on the End Task button.

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6.6 The Tekterm Status Area

Tekterm provides a status area just above the softkey labels. The status area indicates the operating condition of the vehicle-mount.

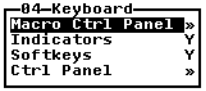

Figure 6.2 Status Area

In the sample screen above, the security level assigned within the Tekterm application is displayed in the status area. One of the following levels can be displayed – Supervisor or Teklogix.

6.7 TESS Emulation

TESS (Teklogix Screen Subsystem) is the normal operating mode of Psion Teklogix computers. Teklogix protocol emulation software resident on network controllers or a Psion Teklogix Software Development Kit (SDK) and installed in the host converts host screens to TESS commands. The 9150 Access Point is also equipped with protocol emulation software.

Note: *If the message "RESET: Press Enter" flashes at the bottom of the TESS screen when you turn on the 8525, press the <ENTER> key once.*

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6.7.1 Configuration

Note: *Each TESS session must have a unique name assigned to it. The title you assign will be displayed in the Display Menu.*

The process of renaming an existing TESS session and adding a new session is described in the section titled, “Applications” on page 175.

A unique number must be assigned in the “Terminal #” parameter for **each** TESS session. Refer to “Terminal #” in the section titled “TESS Settings” on page 194 for details.

6.7.2 Working With Multiple Sessions

To display another session in TESS:

- Go to the startup ‘Display Menu’. If you are in a TESS session, press <CTRL><ALT><0> to go to the ‘Display Menu’.
- Type the letter corresponding to the application you want to launch. For example, suppose the sessions are listed in the “Display Menu” as ‘`D TESS1`’ and ‘`E TESS2`’. To launch the session named `TESS2`, type the letter *e*.

6.7.3 The Field Types

Fixed Field – displays information that cannot be changed from the keyboard.

Entry Field – allows the operator to enter data. This type of field is usually shown as: “……..”

Match Field – the host computer loads data in the format of the expected entry. If the entered data does not match the expected format, the unit emits a long beep.

Auto-tab Field – automatically moves the cursor to the next field when the current field is filled.

Bar code only Field – is filled with data from a bar code reader. Keyboard entries are not accepted in this type of field.

Serial I/O Field – is filled with data coming from a serial port. Keyboard input is not accepted in this type of field.

6.7.4 IBM 5250 Emulation Keys

The following keys allow the Psion Teklogix computer to better emulate the functions of a true IBM 5250 terminal.

Note: *These keys are active at all times in TESS applications.*

Key Sequence	Cursor Movement
<PgDn> key	Cursor moves to the first position in the next input field. If already in the last field, the cursor moves to the first input field on the screen.
<PgUp> key	Cursor moves to the beginning of the current field. If already in the first position, the cursor moves to beginning of the previous field.
<End> key	Current field is cleared from the cursor position to the end of the field, and the cursor moves to the next input field.
<Home> key	Cursor moves to the first input field on the screen.

6.7.5 Data Entry

The 8525 accepts data until the operator presses a key that sends a transmission to the host computer. The following actions cause the 8525 to transmit:

- Pressing a function key or the <ENTER> key (which is considered to be <F0>) causes the 8525 to transmit.
- Completing data entry into a “transmit on entry” field also causes the 8525 to transmit.

There are several ways to configure the 8525 vehicle-mount to complete a data field:

- Pressing <ENTER> after entering data.
- Pressing a function key after entering data.
- Pressing an arrow key after entering data.
- Filling an auto-tab field.

6.7.5.1 TESS Edit Modes And Cursor Movement

The TESS editing modes and cursor movements in each type of mode are described in the table below.

Field mode	Press <CTRL> *f* to enter *field* mode. In this mode, once data entry into a field has been completed, the entry cannot be changed without retyping the entire field. In field mode, the <RIGHT> and <LEFT> arrow keys do not perform any functions. Pressing the <UP> or <DOWN> arrow key completes the entry field and then, moves the cursor to the previous or next field.
Fcursor mode	Press <CTRL> *u* to enter *fcursor* mode. In this mode, once data entry into a field has been completed, the entry cannot be changed without retyping the entire field. In fcursor mode, the <UP>, <DOWN>, <LEFT> and <RIGHT> arrow keys move the cursor between fields.
Insert mode	Press <CTRL> *i* to enter *insert* mode. In this mode, data can be entered between two characters that have been previously entered. In insert mode, the <RIGHT> and <LEFT> arrow keys move the cursor right and left within a field. The <UP> and <DOWN> arrow keys complete the entry field and move the cursor to the previous or next field.
Replace mode	Press <CTRL> *r* to enter *replace* mode. In this mode, data can be entered over previously entered characters. In replace mode, the <RIGHT> and <LEFT> arrow keys move the cursor to the right and left within a field. The <UP> and <DOWN> arrow keys complete the entry field and move the cursor to the previous or next field.

Note: *When the "Enter on Arr" parameter is disabled (set to "N"), the <UP> and <DOWN> arrow keys do not complete an entry field. Refer to page 207 for details about this parameter.*

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6.7.5.2 <DEL> Key Behaviour In TESS

Field mode	• In a left justified field, the <DEL> key erases all characters in the field and places the cursor in the left most position of that field. • In a right justified field, the <DEL> key erases all characters in the field and places the cursor in the right most position of that field. • If the <DEL> key is used to clear data in a field that has been pre-filled by the host application, the field is flagged as modified and the updated information is sent to the host in the next response message.
Replace mode	• In both left and right justified fields, the <DEL> key erases characters beginning from the current cursor position to the end of the field. The cursor remains in the same position in the field. • If the <DEL> key is pressed while cursor is in the right most position in the field, the 8525 emits a keyboard error beep. • If the <DEL> key is used to clear data in a field that has been pre-filled by the host application, the field is flagged as modified and the updated information is sent to the host in the next response message.
Insert mode	• In both left and right justified fields, the <DEL> key erases the characters from one character position to right of the cursor to the end of the field. • If the <DEL> key is pressed while the cursor is in the right most position in the field, the 8525 emits a keyboard error beep. • If the <DEL> key is used to clear data in a field that has been pre-filled by the host application, the field is flagged as modified and the updated information is sent to the host in the next response message.
Fcursor mode	• Refer to “Field Mode” at the beginning of this table. The <DEL> key operates in the same manner in “Fcursor mode” as it does in “Field mode”.

6.7.5.3 <BKSP> Key Behaviour In TESS

Field mode	• In a left justified field, the <BKSP> key erases the character directly to the left of the cursor and then moves the cursor one position to the left. When the last character in the field is deleted, the field displays the value that it contained before it was modified, and the field is opened. • In a right justified field, the <BKSP> key erases the character on which the cursor is positioned and shifts the remaining characters to the right by one position. When the last character in the field is deleted, the field displays the value that it contained before it was modified, and the field is opened. • If the <BKSP> key is pressed when the field is empty, the 8525 emits a keyboard error beep. • The <BKSP> key does not delete data pre-filled by the host application. • If the <BKSP> key is pressed in a field that has not been modified, the 8525 emits a keyboard error beep. • If data is entered into a field and is then deleted before the field is completed, the field remains unmodified when the cursor leaves the field or when the screen is transmitted.
Replace mode	• In a left justified field, the <BKSP> key erases the character on which the cursor is positioned unless it is one position to the right of the last character in the string; in this case, the <BKSP> key erases the character to the left of the cursor. • In a right justified field, the <BKSP> key erases the character on which the cursor is positioned. The remaining characters are then shifted to the left of the cursor, and the cursor is shifted to the right by one position. • If the <BKSP> key is pressed while the cursor is in the right-most character position of the field, the cursor does not shift to the left when that character is erased; it remains in the right most position in the field. • When the last character in a field is erased, the field remains empty – that is, any pre-filled data is not displayed. Pressing the <BKSP> key in the empty field results in a keyboard error beep. • The <BKSP> key can delete data pre-filled by the host application. • If data is entered in a field and is then deleted before the field is completed, the field remains unmodified when the cursor leaves the field or when the screen is transmitted.

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Insert mode	• In a left justified field, the <BKSP> function erases the character on which the cursor is positioned, unless it is at the right end of the character string; in this case, it erases the character to the left of the cursor. When the last character in a field is erased, the field remains empty, and any further <BKSP> functions in the empty field result in a keyboard error beep. • In a right justified field, the <BKSP> function erases the character that is to the right of the cursor and then shifts the data remaining to the right one position. • If the <BKSP> key is pressed while the cursor is in the right-most character position of that field, the cursor does not shift to the left when that character is erased; it remains in the right-most position in the field. • When the last character in a field is erased, the field remains empty – i.e. any pre-filled data is not displayed. Pressing the BKSP key in the empty field sounds a keyboard error beep. • The <BKSP> key can delete data pre-filled by the host application. • If data is entered into a field and then deleted before the field is completed, the field remains unmodified when the cursor leaves the field or when the screen is transmitted.
Fcursor mode	• Refer to “Field Mode” at the beginning of this table. The <BKSP> key operates in exactly the same manner in “Fcursor mode” as it does in “Field mode”.

6.7.6 TESS Status Message

- Press <CTRL> <S> to continuously display the status message in the lower left corner of the screen.
- Press <CTRL> <S> again if you want the status message to appear only during transmit (lock-H). The message should look similar to the sample below:

```
V6.0 fld 0.6
```

“V6.0” is the TESS version number. “fld” indicates that TESS is currently in *field* mode. *Insert* and *replace* mode are represented as “ins” and “rep” respectively. The number “0.6” indicates the response time of the last transmission in seconds. Press <CTRL> <T> to display the unit number instead of the TESS version number.

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6.7.7 Lock Messages

When information is transmitted to the host computer, the keyboard locks to prevent further data entry until the 8525 receives a reply. A locked state is indicated by either “LOCK-B” (base) or “LOCK-H” (host) in the lower left corner of the display.

When the reply is received by the 8525, the lock message disappears and the keyboard can be used again.

6.7.8 Control Commands

A group of <CTRL> key commands can be used within TESS to dictate how the 8525 will operate under a variety of conditions.

- <CTRL> <P> – Reprints the last print page sent from the host. This key combination will not print anything if a print page from the host was not previously received at the 8525 vehicle-mount.
- <CTRL> <S> – Displays the 8525 status continuously. Below is a sample status line as it might appear at the bottom of your screen:
  `Lock-B/Lock-H  fld  enh  “application name”`
- <CTRL><T> – Displays the 8525 status with the terminal number instead of the name.
  `Lock-B/Lock-H  rep  “terminal nn”`
- <CTRL> <H> – Displays a menu of available hosts.

6.7.9 Resetting A TESS Session

Resetting a TESS session requires that <CTRL> C be pressed three times within a two second period to generate the “RESET – User request” message.

- Press and hold down the <CTRL> key, and press the <C> key three times ***within a two second period***.
- Press <ENTER>.

This procedure restarts the TESS session without affecting the rest of the 8525.

6.7.10 The Local Menu

The host can store local procedures in the 8525 for use when the unit is off-line. A menu of these procedures appears whenever <CTRL> <L> is pressed (see Figure 6.3).

- Press the function key corresponding to the procedure you want to perform. Local procedures will not function when the "Lcl Process" and "Queuing" parameters are disabled (see "Lcl Process – Save on Reset" on page 201 and "Queuing" on page 201).

Although using local procedures eliminates the advantages of an on-line 8525, it allows work to continue when the host is unavailable. The "LOCK-B/H" messages are replaced with "NEXT-B/H" in this mode.

```
      LOCAL MENU
F1 -
F2 -
F3 -
F4 -
F5 -
F6 -
F7 -
F8 -
F9 - Select Host
```

Figure 6.3 Local Menu

6.7.11 Selecting Another Host Computer

- Press <CTRL> <H> or <F9> from the local menu to display a menu of available hosts.

This menu appears only when more than one host is available.

```
Select Host: ......
F1 - Host 1  F2 - Host 2
```

Figure 6.4 Select Host Screen

Note: *This feature will not function when the "Lcl Process" and "Queuing" parameters are disabled (see "Lcl Process – Save on Reset" on page 201 and "Queuing" on page 201).*

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6.7.12 Queuing Mode

In some applications, queuing mode can decrease the computer lock time. In queuing mode, the host computer may send several pages to an 8525 without waiting for a response. These pages are stored in a queue within the 8525 vehicle-mount. The operator completes the entries on the first page and then, presses a function key.

The 8525 simultaneously transmits to the host and displays the next page in the queue. The computer does not lock, allowing the operator to enter data on the next page immediately. This continues as long as there are pages in the queue.

Queuing mode is used for repetitive tasks, and the queued screens look identical. The 8525 displays a “Next” message indicating that a new page is on the display. “Next” messages also contain information about radio communications: “NEXT-B” indicates that the 8525 has data to transmit to the base station. “NEXT-H” indicates that the base station has acknowledged a transmission. Unlike lock messages, “Next” messages do not lock the keyboard. Keying is allowed while “Next” messages are displayed.

While queuing mode may improve apparent response time, it can present difficulties to hosts that are operating in real time. It should only be used after careful consideration of the host environment. The 8525 must be configured for queuing mode (see the “Queuing” parameter on page 201). Additional information on queuing can be found in the *TESS (Teklogix Screen Subsystem) Manual*.

6.8 ANSI Emulation

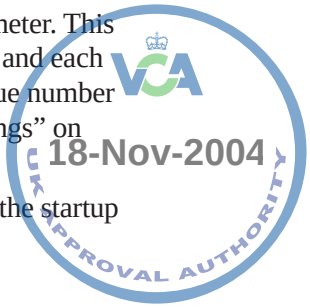
The Psion Teklogix 8525 in ANSI mode operates like most other ANSI terminals. This means software that supports ANSI terminals requires little or no changes.

6.8.1 Configuration

To configure the 8525 for ANSI mode, the “Name” and “Type” of session – in this case, ANSI – must be specified in the Applications menu. This menu is described in the section titled, “Applications” on page 175.

Next, a unique number must be assigned using the “Terminal #” parameter. This number should be unique across the entire system – that is, each 8525 and each application session in each 8525 across your system must have a unique number assigned. This parameter is described in the section titled “ANSI Settings” on page 176.

Once the 8525 is configured, an ANSI operation can be selected from the startup “Display Menu”.



6.8.2 Sending Data To The Host

8525 vehicle-mounts running ANSI sessions transmit characters to the host as soon as they are typed. The 8525 provides parameters that determine when the computer transmits characters to the host.

The 8525 can be configured to transmit after a number of characters are typed in (the “Xmit Count” parameter) or after some time has elapsed (the “Xmit Wait” parameter), or both. This reduces overhead on the radio link and improves response time. See page 185 for more information about these parameters.

You can also determine whether the 8525 transmits immediately after the <ENTER> key, an arrow key, or a function key is pressed.

The 8525 computer also responds immediately to the device attribute requests “CSIc”, “CSI0c” and “ESCZ”.

Note: *For a more detailed description of the parameter settings for ANSI, refer to “ANSI Settings” on page 176.*

6.8.3 Psion Teklogix Keyboard And VT220 Equivalent Keys

The Psion Teklogix keyboard differs from most ANSI terminals. Table 6.2 maps the equivalent VT220 keys.

Psion Teklogix Key	Equivalent VT220 Key
<UP> arrow	Up arrow
<DOWN> arrow	Down arrow
<RIGHT> arrow	Right arrow
<LEFT> arrow	Left arrow
<F1>-<F4>	PF1-PF4
<F5>	None
<F6>-<F10>	F6-F10
<F11>	F11 (ESC)
<F12>	F12 (BS)
<F13>	F13 (LF)
<F14>	F14
<F15>	Help
<F16>	Do
<F17>-<F20>	F17-F20

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Psion Teklogix Key	Equivalent VT220 Key
<F21>	Find
<F22>	Insert Here
<F23>	Remove
<F24>	Select
<F25>	Previous Screen
<F26>	Next Screen
<F27>-<F36>	None

Table 6.2 Psion Teklogix Keyboard And VT220 Equivalent Keys

6.8.4 Block Mode (Local Editing)

The Psion Teklogix 8525s support “block mode” (or Local Editing). Application programs must be specifically written to support this mode. For software that supports this mode, the keys shown in Table 6.3 have special meaning.

Key	Function
<ENTER>	Starts transmission of data.
Function keys	Start transmission of data.
Arrow keys	Move cursor to the next unprotected position in the appropriate direction.
<SHIFT> <RIGHT> arrow	Moves the cursor to the next unprotected area.
<SHIFT> <LEFT> arrow	Moves the cursor to the previous unprotected area.
<DEL>	Deletes the character to the left of the cursor, and moves cursor one position to the left.
<CLR>	Erases the data in an area and moves the cursor to the first position in the area.

Table 6.3 Function Of Keys In Block Mode

6.8.5 Working With Sessions

Important: ***Use only lowercase letters when entering commands at the "TCP >" prompt.***

6.8.5.1 Establishing A New Session

- Press <CTRL>, and type a lowercase *a*.

At the TCP> prompt:

- Type *tel* in lowercase letters followed by the *Host Name* or *IP address*.
- Press <ENTER>.
- Log in as usual to begin working with the new session.

6.8.5.2 Listing Sessions And Moving To Other Sessions

To list the current sessions:

- Press <CTRL>, and type a lowercase *a*.

At the TCP> prompt:

- Type *sess* in lowercase letters, and press <ENTER>.

To move to another session:

- At the TCP> prompt, type *sess* in lowercase letters followed by the session number to which you want to move.
  e.g., Type *sess 2* to move to session 2.
- Press <ENTER>.

6.8.5.3 Closing A Session

To close a session:

- Press <CTRL>, and type a lowercase *a*.
- At the TCP> prompt, type *cl* in lowercase letters followed by the session number you want to close.
  e.g., Type *cl 2* to close session 2.
- Press <ENTER>.

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6.8.5.4 Printing A Screen

To print each line of a screen with a CR/LF between each line:

- Press <CTRL>, and type *p*.

The screen will be printed using the port configured as “Print”.

6.8.5.5 Smart Echo – Disabling

In some circumstances – like entering a password – you many want to temporarily disable “smart echo”, disguising the characters you type with ‘.’ (periods).

- Press <CTRL> <ALT> <P>, and type a ‘.’ (period).
- Type the necessary information using the keyboard, and then press <ENTER> to return to “smart echo mode.

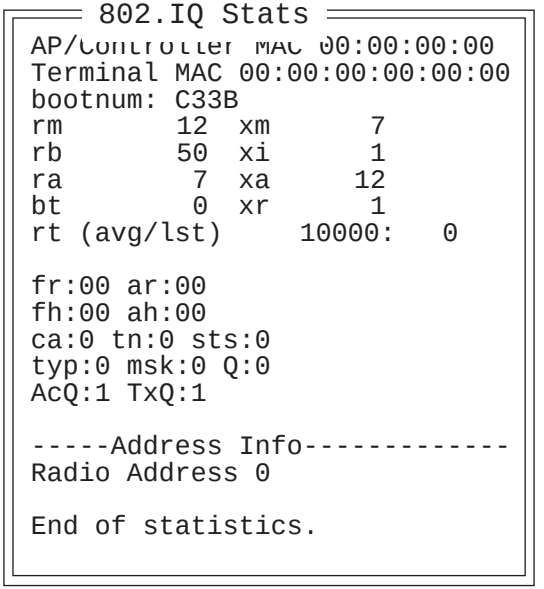
6.9 The Radio Statistics Screen

To access the radios statistics screen, you’ll need to use the ‘Applications’ menu to assign a radio title:

- In the ‘More Parameters’ menu, choose ‘Applications’.
- In the ‘Type’ field, choose `RadioStats`.
- In the ‘Title’ field, type a name for the radio screen – e.g., `Radio`.
- Press <F4> to save your changes, and then reset the 8525 – press and hold down the <BLUE> and <ENTER> keys for a minimum of 6 seconds.
- In the ‘Display’ menu, type the letter corresponding to the radio statistics screen. For example, in the sample screen below, you’d type *d* to display the radio statistics screen.

```
01 Display Menu
A   Parameters
B   TESS
C   ANSI
D   Radio
```

6.9.1 802.IQ Stats Screen



- AP/Controller mac — MAC address of the Teklogix access point/controller with which this 8525 is currently associated.
- Terminal MAC — MAC address of the 8525 vehicle-mount computer.
- bootnum — e.g., C33B – the boot number of the network controller. This number increments each time the controller reboots so that 8525s can detect the reboot when they reinitialize.
- rm — number of unique received messages.
- xm — number of unique transmitted messages.
- rb — number of received beacons. This number should continuously increment.
- xi — number of initializations with the network controller.
- ra — number of received acknowledgements. (Normally, this number should match the value in `xm`.)
- xa — number of transmitted acknowledgements. (Normally, this number should match the value in `rm`.)

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- bt — beacon timeouts. Number of times the beacon has not been received as expected.
- xr — number of retransmissions. This number should remain low if radio coverage is adequate.
- rt — average round trip time. This number represents the milli-seconds taken to send a message and receive a response from the base station.

Cellular Protocol message numbers:

- fr — forward remote number (hex).
- ar — acknowledged remote number (hex).
- fh — forward host number (hex).
- ah — acknowledged host number (hex).
- ca — radio address. This is the Cellular Address, including session number (hex).
- tn — host terminal number of session (decimal).
- sts — session status (hex).
- typ — data stream type (hex).
- msk — message mask (hex).
- Q — memory address of first message in receive queue (i.e. if 0 then the receive queue is empty).
- AcQ — number of messages that have been sent but not yet acknowledged by the Cellular Master (decimal).
- TxQ — number of messages waiting to be sent (decimal).

6.9.2 Exiting The Radio Statistics Screen

- Press <CTRL> <ALT> <0> (zero) to return to the ‘Display’ menu.

6.10 The Tekterm Startup Display Menu

The values assigned to Tekterm parameters can be viewed and adjusted to optimize communication at the site in which an 8525 is operating. While some parameters are accessible through the "Parameter Manager", others can be adjusted through the Windows CE .NET Control Panel. This section provides a description of all parameters and how to adjust them.

- Press <CTRL> <ALT> <0> (zero) to work with the 'Display' menu.

From this startup menu, you can launch the "Parameters" menu along with TESS and/or ANSI sessions. You can also display the Radio Statistics screen.

```
01 Display Menu
A   Parameters
B   TESS
C   ANSI
```

Note: *Aside from the 'Parameters' menu, all other applications listed in the 'Display Menu' are created in the 'Applications' menu. Refer to "Applications" on page 175 for details.*

To launch an application, either type the letter to the left of the application you want to use, or tap the stylus on the item.

For example, to display the "Parameters" menu:

- Type the letter *a*, ***or***
- Tap the stylus on the "Parameters" item.

Note: *To return to the 'Display Menu', press <F2> – the 'Previous' key.*

6.11 Working With Menus

The 8525 offers two ways to navigate menus and choose values – you can either use the keyboard or, you can select items by tapping a stylus on the screen.

There are four types of parameters: numeric, Y/N, alpha and string entry. Some menus have sub-menus attached to them and others utilize a Control Panel dialogue box to make adjustments.

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Important: ***Depending on the method you use when working with menus, review either "Using The Touchscreen To Navigate Through Menus" on page 154 or "Using The Keyboard To Navigate Through Menus" on page 155.***

6.11.1 Using The Touchscreen To Navigate Through Menus

6.11.1.1 Sub-Menus

The "**»**" character appearing to the right of the menu item indicates that it has a sub-menu.

Displaying Sub-Menus

To display a sub-menu:

- Double-tap the stylus on the menu item with the sub-menu you want to display.

Returning To The Previous Menu

- If the softkey labels are visible at the bottom of the screen, tap the stylus on the "PREV" (previous) softkey label.
- If the softkey labels are not visible, you'll have to press <F2> – the "PREV" function key.

6.11.1.2 Numeric Parameters

Numeric parameters are displayed in reverse video.

- To ***decrease*** the numeric value, tap the stylus on the ***left*** side of the number.
- To ***increase*** the numeric value, tap the stylus on the ***right*** side of the number.

Each numeric parameter has a preset range of numbers assigned to it – for example, a preset range of 1 through 10. If you attempt to enter a number which either exceeds 10 or falls below 1, the incorrect value will be rejected – the original value for this parameter, if any, will be displayed.

6.11.1.3 Y/N Parameters

Y/N parameters can only be enabled (Y) or disabled (N). To enable or disable a Y/N parameter:

- Tap the stylus on the parameter associated with the Y/N value – the value will toggle between "Y" and "N".

Some Y/N parameters have sub-menus. For these parameters, a double right arrow (**»**) appears next to the "Y" or "N".

- Tap the stylus on the sub-menu arrow (**»**) to display the sub-menu.

6.11.1.4 Alpha Parameters

Alpha characters appear in reverse video in this type of parameter. The allowable values for this type of parameter consist of a predetermined set of acceptable letters or words. To cycle through the set:

- Tap the stylus on the alpha field to cycle through the options.

6.11.1.5 String Entry Parameters

You'll need to use the keyboard to enter values in string entry fields. Refer to "String Entry Parameters" on page 156 for details.

6.11.2 Using The Keyboard To Navigate Through Menus

- Press the <UP> and <DOWN> arrow keys to move the cursor up and down the current menu.

The currently selected parameter name will be displayed in reverse video.

6.11.2.1 Sub-Menus

The "**»**" character appearing to the right of the menu item indicates that it has a sub-menu.

Displaying Sub-Menus

To display a sub-menu:

- Use the <UP> and <DOWN> arrow keys to position the cursor on the menu item with the sub-menu you want to display.
- Press <F1> – the "NEXT" menu function key.

Returning To The Previous Menu

- Press <F2> – the "PREV" function key, ***or***
- Press <ESC>.

6.11.2.2 Numeric Parameters

Numeric parameters are displayed in reverse video. To increment or decrement a number:

- Press the <RIGHT> or <LEFT> arrow keys, ***or***
- Type the desired number in the field. Negative values are entered by typing a "-" (minus) sign and then the number.
- Press <ENTER>.

Each numeric parameter has a preset range of numbers assigned to it – for example, a preset range of 1 through 10. If you attempt to enter a number which either exceeds 10 or falls below 1, the incorrect value will be rejected – the original value for this parameter, if any, will be displayed.

6.11.2.3 Y/N Parameters

Y/N parameters can only be enabled (Y) or disabled (N). To enable or disable a Y/N parameter:

- Press the <RIGHT> or <LEFT> arrow key *once*, ***or***
- Type *y* to enable or *n* to disable the parameter.

Some Y/N parameters have sub-menus. For these parameters, a double right arrow (**»**) appears next to the "Y" or "N".

6.11.2.4 Alpha Parameters

Alpha characters appear in reverse video in this type of parameter. The allowable values for alpha parameters consist of a predetermined set of acceptable letters or words. To cycle through the set:

- Press the <RIGHT> or <LEFT> arrow keys.

6.11.2.5 String Entry Parameters

Important: ***For detailed information about using string entry fields to program macro keys, refer to "Macro Control Panel" on page 164.***

A sequence or string of characters can be entered in this type of parameter. When a string entry parameter contains data, it is displayed in reverse video. (Empty fields are not displayed in reverse video.) The methods that can be used to enter information in string entry parameters are described in this section.

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In string entry parameters, the <UP> arrow, <DOWN> arrow, <ENTER> and <BKSP> keys have the following functions:

- The <UP> and <DOWN> arrow keys move the cursor between entry fields in the direction of the arrow.
- <ENTER> completes the entry field.
- <BKSP> deletes the character to the left of the cursor.
- <DEL> (key combination <BLUE> <BKSP>) clears the entire field.

Choosing An ASCII Character With The Arrow Keys

Important: Make sure the <CTRL> and <SHIFT> keys are turned off!

By pressing either the <RIGHT> or <LEFT> arrow key, you can cycle through a set of printable characters not directly accessible from the keyboard.

- Press the <RIGHT> arrow to display the next character in this sequence, and the <LEFT> arrow to display the previous one.

Adding Additional ASCII Characters

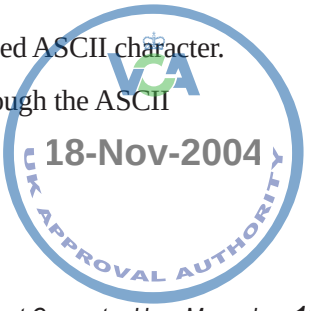
When you've chosen an ASCII character and want to add another one in the same field, the cursor must be moved to the right of the existing character. Normally, pressing the <RIGHT> arrow key moves the cursor to the right, but in a string entry field, pressing the <RIGHT> arrow key cycles through the available ASCII characters instead. **If you've already chosen an ASCII character** and want to add another one in the field, you need to take a few extra steps to move the cursor to the right.

To add another ASCII character in the string entry field, next to the one you've already chosen:

- Type a numeric character – for example, type the number 7.
- Next, press the <BKSP> key.

The cursor is now positioned to the right of the previously selected ASCII character.

- Press the <RIGHT> or <LEFT> arrow key to scroll through the ASCII characters, and select another character.



Entering Information In A String Entry Field

In addition to using the fixed set of ASCII values assigned to this type of parameter, you can also type text in a string entry field.

- Type the required text in the string entry field – including letters, numbers and symbols.
- Press <ENTER> to save the text.

Entering Unicode Values

Unicode is a trademark of The Unicode Consortium. To enter a Unicode™ value for one-time use:

- Press and hold down the <ALT> key while typing a four digit decimal value that represents the Unicode™ character you want to display.
- Release the <ALT> key.

Important: ***If you have a set of Unicode™ values that you use frequently, you may want to create and save them in a pop-up window so that you can access them whenever necessary. Refer to "Custom Characters (Unicode™)" on page 172 for details.***

6.11.3 Saving Changes To Parameters

Whenever a parameter value is altered, the new value must be saved. To do this:

- Press <F4> – the "SAVE" key, *or*
- Tap the stylus on the "SAVE" softkey label.

Note: *If the softkey labels are not visible, you'll have to press <F4> – the "SAVE" function key.*

If a parameter value is changed and the menu exited before the change is saved, a dialogue box appears asking whether or not the operator wants to save the changes.

6.11.4 Retrieving Default Parameter Values

Important: ***When <F3> – the DEFAULT key – is pressed, all parameter values revert to the factory defaults, including those values that you've changed and saved.***

- Press <F3> – the "DEFAULT" function key, ***or*** tap the stylus on the "DEFAULT" softkey label – to reinstate the default parameter values.
- Press <F4> – the "SAVE" function key, ***or*** tap the stylus on the "SAVE" softkey label – to save the changes.
- Reset the 8525. See "Resetting The 8525 Vehicle-Mount Computer" in the next section.

6.12 Resetting The 8525 Vehicle-Mount Computer

Some parameter adjustments require that the 8525 be reset before the changes can take effect. To reset the 8525:

- Press and hold down the <BLUE> key and the <ENTER/ON> key simultaneously for a minimum of six seconds.

A reset results in a complete reboot of the unit. All RAM memory contents are lost. The contents of the flash memory and memory card are preserved. When the 8525 is reset, the screen displays the Psion Teklogix and Microsoft® Windows® CE.net splash screen before displaying the startup desktop.

6.13 The Parameters Menu

- At the 'Display' menu, type *a* to display the Parameters menu.

01 Parameters		Range
More Parameters	»	see page 161
Security	User	see page 160
Display	»	see page 160

The "Parameters" menu allows you to adjust the screen contrast and select a security level. With a *Supervisory* or *Teklogix* password, you can also access the parameters listed in the "More Parameters" sub-menu.

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6.13.1 Security Settings

To access the “More Parameters” sub-menus, the “Security” parameter must be set to either a *Supervisor* or a *Teklogix* level password. The default security level is *User*.

01 Parameters	Range
More Parameters »	see page 161
Security	**see text**
Display »	see text

- Tap on the Security parameter to display the Security Level dialogue box.

Refer to ***“Security Levels” on page 51*** for details about setting the security level for your 8525.

6.14 Display Options

The ‘Display’ sub-menu is used to adjust your unit’s display properties.

- Press <F1> to access the ‘Display’ sub-menu.

02 Display	Range
Backlight Ctrl Panel »	see text

The Display Properties dialogue box is displayed where you can adjust the appearance, backlight and contrast of your 8525 display.

Important: ***The ‘Display Properties’ dialogue box options are described in detail beginning on page 68.***

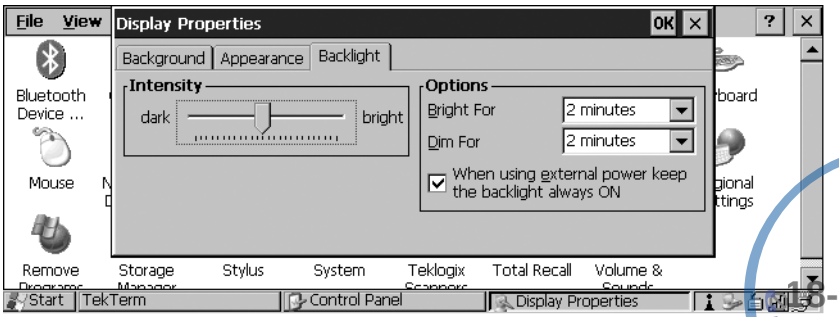

Figure 6.5 Display Properties

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6.15 More Parameters

The “More Parameters” sub-menus contain the Tekterm parameters and can only be accessed with the proper security password – either a *Supervisory* or a *Teklogix* password. (Refer to “Security Settings” on page 160 for details.)

Warning: ***Parameters should not be altered without a clear understanding of how they operate. Parameters that are incorrectly set can increase response time or cause communication difficulties. Generally, parameters are configured for each site during installation.***

- At the startup ‘Display’ menu, type ‘*a*’ to display the ‘Parameters’ menu.

```
01 = Parameters                          Range
More Parameters   »                      see page 161
Security          Supervisor             see page 160
Display           »                      see page 160
```

- To open the ‘More Parameters’ menu, press <F1>.

```
02 = Parameters
Radio                  »
System                 »
Scanner Ctrl Panel     »
View Manager           »
Applications           »
Ports                  »
Network                »
```

6.16 Radio Parameters

Important: ***Radio parameters should not be changed from their factory settings without a clear understanding of your system.***

The 8525 is equipped with an 802.11b radio.

- Press <F1> to display the ‘Radio’ sub-menu.

```
03 Radio
802.11                »
```

- Press <F1> to access the ‘802.11’ sub-menu.

```
04 802.11 DS SS
802.IQ v1        N  »
```

- Set ‘802.IQ v1’ to ‘Y’ to activate these parameters. and press <F1> to display ‘802.IQ v1’ parameters.

```
05 802.IQ v1                    Range
Auto Radio Addr   Y      Y/N
Radio Address     0      1-3840
Initial RTT       0      0-1000
Protocol Type     2457   1501-65535
```

802.IQ v1

When 802.IQ v1 is set to “Y”, the attached sub-menu of parameters is enabled.

Auto Radio Addr

If this parameter is enabled (set to “Y”), a request is sent to the network controller to assign a radio address to the vehicle-mount computer radio.

If “Auto Radio Addr” is set to “N”, the value entered in the “Radio Address” parameter is used. (Refer to "Radio Address" in this section for details about manually assigned radio addresses.)

Important: ***Ensure that all 8525s grouped in the system use the same addressing process – that is, if you choose to use automatic radio addressing, use this addressing process for all units operating in the same system. If you choose to assign radio addresses manually using the “Radio Address” parameter, use this process for all units in the same system.***

Radio Address

The value entered in the “Radio address” parameter is used to identify the 8525 over the radio link. A unique value from 1 to 3840 must be assigned for each 8525 vehicle-mount computer.

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Initial RTT (Round Trip Time)

Round trip time is the elapsed time between a *vehicle-mount computer transmission* and an *access point acknowledgement*. Each 8525 continuously adjusts the acceptable round trip time, calculating the average elapsed time over a number of transmissions. If an acknowledgement takes longer to receive than the average round trip time calculated, the computer will send the transmission again.

Because 8525s cannot calculate an *average* round trip time without a number of transmissions, a starting point or "Initial Round Trip Time" is required. The computer uses the time assigned to the "Initial RTT" parameter as a starting value for round trip calculations. Once the 8525 begins transmitting and receiving data, this value will be adjusted to reflect the actual average round trip time between transmissions and acknowledgements.

Protocol Type

"Protocol Type" is used to identify the Ethernet packet frame type sent by the 8525. The default value – `2457` – assigned to this parameter identifies the Teklogix 802.IQ protocol Ethernet packet frame types.

The "Protocol Type ID" should only be altered if the default value is already being used to specify another application Ethernet frame type.

Important: ***If you change the value assigned to "Protocol Type ID", ensure that all 8525s and 9150s in your system use the same number.***

6.17 System Parameters

```
03 System
Keyboard                »
Audio                   »
Pwr Mgmt Ctrl Panel     »
User Permissions        »
Auto Start              Y
```

6.17.1 Keyboard

```
04 = Keyboard
Macro Ctrl Panel   »
Indicators         Y
Softkeys           Y
Ctrl Panel         »
```

6.17.1.1 Macro Control Panel

- Highlight 'Macro Ctrl Panel', and press <F1> to display the **Macros** tab in the **Keyboard Properties** dialogue box.

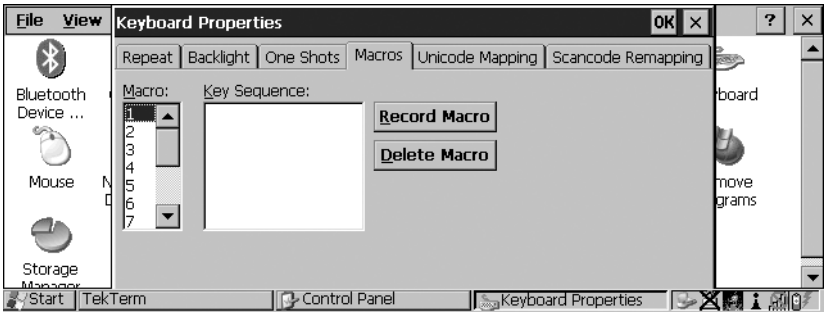

Figure 6.6 Macro Dialogue Box

Important: ***Refer to "Keyboard Macro Keys" on page 73 for detailed instructions about creating macros.***

Important: ***For information about using the macro keys you've created, refer to "Macro Keys" on page 134.***

6.17.1.2 Indicators

When the "Indicators" parameter is enabled (set to "Y"), onscreen indicators are displayed to indicate the operating condition of the 8525. Refer to "Onscreen Indicators" on page 35 for a list of possible indicators.

6.17.1.3 Softkeys

Enabling (setting to "Y") the "Softkeys" parameter displays softkey labels at the bottom of the screen to indicate the function of each softkey. To block the display of softkey labels, set this parameter to "N".

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Softkeys are function keys which are programmed to execute specific actions when pressed. Refer to Table 6.1 on page 134 for a list of softkey labels.

6.17.1.4 Ctrl Panel

This menu item displays the **Keyboard Properties** dialogue box in which you can adjust the repeat rate of the keys, the intensity of the keyboard backlight and the behaviour of the <BLUE> and <ORANGE> keys.

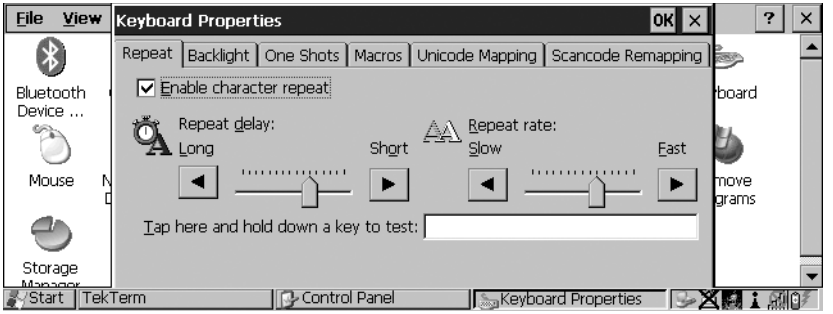

Figure 6.7 Keyboard Properties

Important: ***Refer to "Keyboard Properties" on page 70 for details about this dialogue box.***

6.17.2 Audio

04 = Audio		Range
Beep Tone	3000	800-3000
Beep Time	250	0-2000
Error Tone	1000	800-3000
Error Time	1000	0-2000
Scan Tone 1	1500	800-3000
Scan Time 1	100	0-2000
Scan Tone 2	2000	800-3000
Scan Time 2	100	0-2000
Scan Tone 3	2500	800-3000
Scan Time 3	100	0-2000
Sounds Ctrl Panel	»	see text

Figure 6.8 Audio Menu

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Beep Tone And Beep Time

These parameters regulate the frequency and duration of beeps emitted in a TESS or ANSI session when one of the following is received at the 8525: an *advisory*, a *hey you* or a *bell* character. Tone is measured in hertz and time in milliseconds.

Error Tone And Error Time

These parameters determine the frequency and duration of each error tone. Tone is measured in hertz and time in milliseconds.

Scan Tone 1 And Scan Time 1

“Scan tone 1” and “Scan time 1” determine the frequency and duration of the first beep of a multiple beep. Tone is measured in hertz and time in milliseconds.

Scan Tone 2 And Scan Time 2

“Scan tone 2” and “Scan time 2” determine the frequency and duration of the second beep of a multiple beep. Tone is measured in hertz and time in milliseconds.

Scan Tone 3 And Scan Time 3

“Scan tone 3” and “Scan time 3” determine the frequency and duration of the third beep of a multiple beep. Tone is measured in hertz and time in milliseconds.

Sounds Ctrl Panel

This option displays the Volume & Sounds Properties dialogue box.

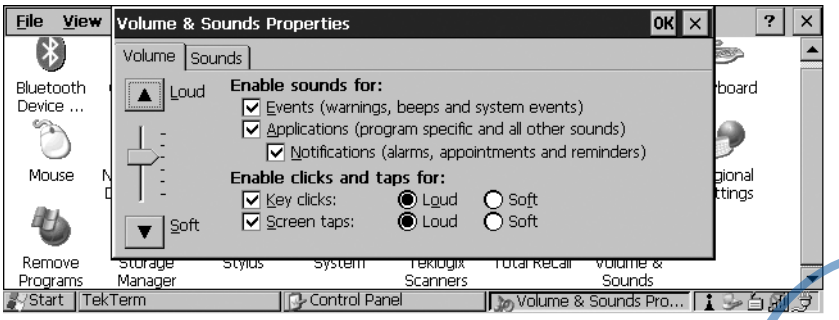

Figure 6.9 Adjusting The Volume

This dialogue box is used adjust the beeper volume and to select the conditions under which the 8525 will emit a beep.

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Important: ***Refer to "Volume And Sound Properties" on page 79 for details about this dialogue box.***

6.17.3 Power Mgmt Ctrl Panel

This menu item displays the Power Properties dialogue box.

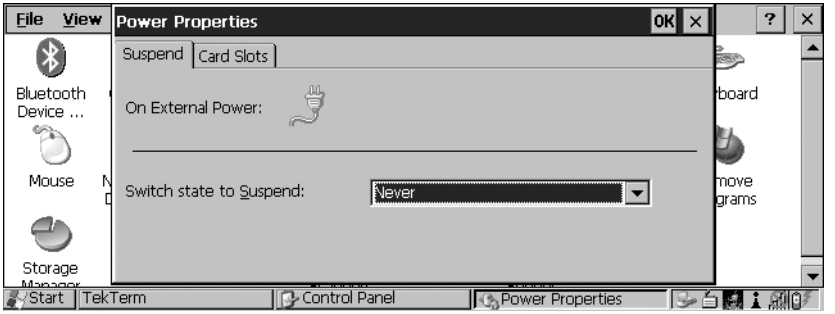

Figure 6.10 Power Properties Dialogue Box

Important: ***Refer to "Power Management Properties" on page 80 for details about this dialogue box.***

6.17.4 User Permissions

04 User Permissions		Range
Screen Switch	Y	Y/N
Font Change	Y	Y/N
Exit	N	Y/N

At *User* security level, the operator is restricted to a small group of parameters.

Important: ***Only* Supervisor *and* Teklogix *level passwords can change the values of the* User *options.***

Screen Switch

When set to "Y", the operator can use the "Split screen" parameter to toggle between screens when multiple applications are running on the 8525. Refer to "Split Screen" on page 170 for details about using this function.

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Font Change

When “Font Change” is set to “Y”, operators at the User level can change the font size of their 8525s.

Exit

If this parameter is set to “Y”, an operator with user level security can exit Tekterm by pressing <ALT> <F4>. If “Exit” is set to “N”, the operator cannot exit Tekterm.

6.17.5 Auto Start

“Auto Start” determines whether or not Tekterm is automatically launched when the 8525 is reset. If this parameter is set to “N”, Tekterm will not be launched when the terminal resets.

6.18 Scanner Control Panel

This menu item displays a **Scanner Properties** dialogue box in which you can set up the particulars of your unit’s scanner performance, choose the bar codes which will be decoded, and so on.

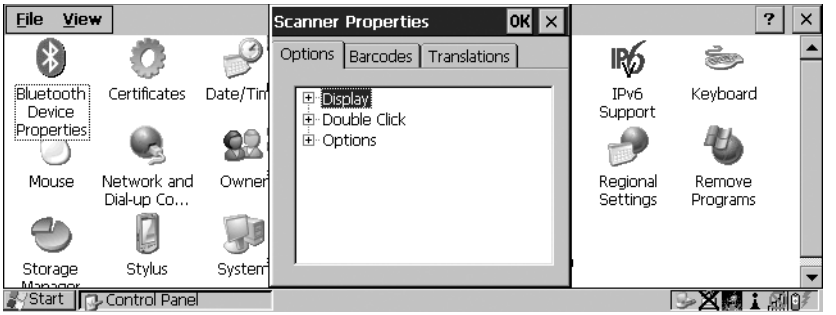

Figure 6.11 Scanner Properties Dialogue Box

Important: ***Refer to "Scanner Properties Setup" beginning on page 114 for details about setting up your scanner.***

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6.19 View Manager

View Manager		Range
Display Shift	Y	Y/N
Block Cursor	Y	Y/N
Use Increment	N	Y/N
X-increment	5	1..40
Y-increment	5	1..12
Split Screen	»	see text
Custom Chars	»	see text
Font Override	N»	see text
Default Colours	»	see text

Display Shift

If this parameter is enabled (set to “Y”), the display in application screens shifts so that there are no blank columns on the left-most side of the display.

Block Cursor

When this parameter is enabled (set to “Y”), the cursor is presented as a flashing block. When “Block Cursor” is set to “N”, the cursor is presented as a flashing underline character.

Use increment

When “Use increment” is enabled (set to “Y”) and the cursor is moved off the display, the screen contents shift by the values specified in the “X-increment” and “Y-increment” parameters.

X-increment

This parameter determines the number of spaces the screen shifts once the cursor moves out of view. The value assigned here doesn’t take effect until “Use Increment” is set to “Y”.

Y-increment

This parameter determines the number of spaces the screen shifts once the cursor moves out of view. The value assigned here doesn’t take effect until “Use Increment” is set to “Y”.

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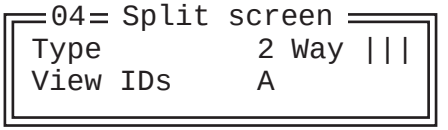
6.19.1 Split Screen



This parameter allows you to split the display view so that more than one application screen can be displayed at the same time. The split screen parameters, “Type” and “View IDs”, are used to tailor the screen view for your needs.

Type And View IDs

The “Type” parameter determines how a screen will be split. The 8525 supports up to four application screens. The “View IDs” parameter determines which application screens will be displayed in each pane of the split screen. “Moving Between Split Screens” on page 171 describes how to move the cursor from one split screen to the next.

6.19.1.1 Splitting And Displaying Screens

Before splitting the screen, you need to determine which applications should appear in each pane of the split screen. The available applications are listed in the main “Display Menu”. Each application listed in the “Display Menu” is preceded by a letter – for example, `Parameters` is preceded by an `A`. This letter is used in the “View IDs” string entry field to fix each pane of a split screen to a corresponding application.

If you need to display the startup “Display Menu”:

- Press <CTRL> <ALT><0>.

To split a screen:

- With the cursor on the “Type” parameter, use the <RIGHT> or <LEFT> arrow key to scroll through the types of split screens available.

The vertical and horizontal lines displayed at the “Type” parameter indicate how the screen will be split – for example, in the sample screen on page 172, the vertical lines indicate the screen will be vertically split into two segments. The screen can also be split horizontally 3 ways or 4 ways.

Once you've indicated how you want to split the screen in the "Type" parameter:

- Use the <DOWN> arrow key to move the cursor to the "View IDs" parameter.
- For each application you want to display, type the letter corresponding to the application.

  For example, suppose you want to split the screen into two vertical segments with the *Parameters* menu in the left pane of the screen and a *TESS* session in the right pane. In the "Display Menu", the letter **A** represents "**Parameters**" and **B** represents "**TESS**". The "Type" and "View ID" values would be represented as follows:

```
04= Split screen
Type          2 Way |||
View IDs      AB
```

- Press <ENTER>.

To display the split screen on the 8525:

- Press <CTRL> <DOWN> arrow.

6.19.1.2 Moving Between Split Screens

To move the cursor from one pane in a split screen to the next:

- Press <CTRL> <RIGHT> or <LEFT>. The cursor moves in order from the left-most pane to the right and from the top-most pane to the bottom.

6.19.1.3 Toggling Between Full & Split Screens

To toggle between a split and full screen format:

- Press <CTRL> <DOWN> arrow.

The application displayed when toggling from a split to a full screen format is determined by the cursor location in the split screen. For example, if the cursor is in the pane of a split screen in which the TESS application is displayed and <CTRL> <DOWN> is pressed to display a full screen, the TESS application will be displayed in the full screen.

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6.19.1.4 Using The Asterisk As A Wild Card

When a screen is split, the application displayed in each pane is fixed in the "View IDs" parameter. Using an asterisk * in the "View IDs" parameter indicates that a particular pane in the split screen is not fixed to any particular application and can be changed as required.

For example, suppose you want to split the screen into two vertical segments with the left pane containing the "Parameters" menu and the right pane containing no fixed application. The "Type" and "View IDs" parameters would be completed as follows:

```
04= Split screen
Type          2 Way |||
View IDs      A*
```

To change the application displayed in the pane with no fixed application:

- If the cursor is not currently in the pane, press <CTRL> <RIGHT> or <LEFT> arrow to move the cursor into the appropriate screen.
- Press <CTRL> <ALT><0> to display the startup "Display Menu".
- Type the letter corresponding to the new application you want to display.

6.19.2 Custom Characters (Unicode™)

Note: *The Unicode ™ characters created here are accessible only within the Tekterm application. To create Unicode ™ characters that are accessible system-wide, refer to "Unicode Mapping" on page 75.*

The "Custom Characters" parameter allows you to create Unicode™ characters not available directly from the keyboard, including accented characters. Unicode is a trademark of The Unicode Consortium. You can create up to 20 Unicode™ characters that will be stored in a pop-up menu accessible from any application.

6.19.2.1 Creating A Unicode™ Character

Note: *You can create a Unicode™ character by pressing and holding down the <ALT> while typing the decimal value that represents the Unicode™ character you want to use. However, you will need to press <ALT> and retype the decimal value each time you want to use the special character.*

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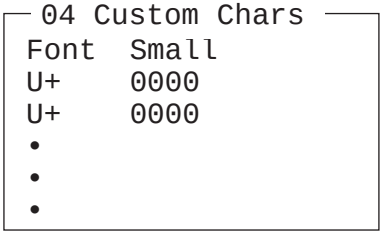
The advantage to creating special characters using the "Custom Chars" parameters is that the characters you create in the customer characters table are saved in a pop-up window that is accessible from any application.

- In the Parameters menu, highlight "View Manager" and press <F1>.
- Highlight "Custom Chars", and press <F1> to display the custom characters table.



- Position the cursor on 'Font' at the top of the table.
- Press the <LEFT> or <RIGHT> arrow keys until the character set you want to use is displayed.

You can create up to 20 Unicode™ characters in the custom characters table. To create a Unicode™ value:

- Replace the *0000* value with a hex value that represents the Unicode™ character you want to use.
- Press the <DOWN> arrow key to accept the value and move the cursor to the next field.

When you have finished creating the Unicode™ characters you want to use:

- Press <F4> to save your changes.
- Reset the 8525 – press and hold down the <ENTER> and <BLUE> key simultaneously for a minimum of six seconds.

6.19.2.2 Displaying The Unicode™ Pop-up Window

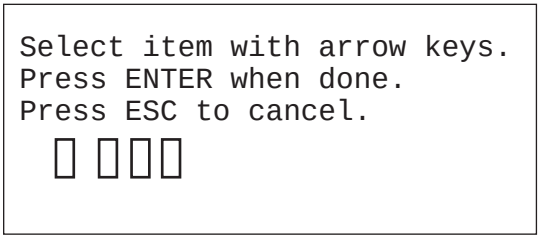
The Unicode™ values you create are stored in a pop-up window that you can access from any application.

To display the pop-up window within any application:

- Press <CTRL> <ALT> <A>.

Note: *Unicode™ characters that cannot be displayed on your screen with the*

font you are currently using are displayed as rectangles in the pop-up window. (See the sample menu on page 174.) However, the actual Unicode™ value you created will be sent to the host.

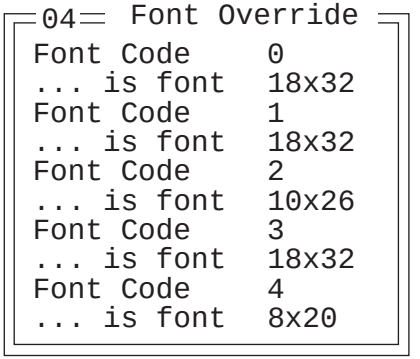


- Use the <LEFT> or <RIGHT> arrow key to position the cursor on the Unicode™ value you want to use, and press <ENTER>.

To close the pop-up menu when you're done:

- Press the <ESC> key.

Font Override



This parameter is used to redefine the font to which 5 different font codes refer.

Default Colours

04 Default Colours		Range
Foreground	Black	see text
Background	White	see text

Foreground And Background

This menu is used to select the foreground and background colours used within Tekterm. If an unreadable combination is assigned – the foreground and background have the same value – the foreground colour will be inverted.

The allowable values are: `Red`, `Green`, `Yellow`, `Blue`, `Magenta`, `Cyan`, `White` and `Black`.

Note: *The 8525 must be reset – press and hold down the <BLUE> and <ENTER> keys for a minimum of six seconds – in order for the new colour assignments to take affect.*

6.20 Applications

"TESS" and "ANSI" applications require unique names so that several different sessions of "TESS" and "ANSI" can operate simultaneously. 8525s can support up to 8 sessions at one time.

03 Applications		Range
Type1	#1 ANSI	None, ANSI,TESS
Title1	#1 parts	see text
Settings	1 »	see text
.		
.		
.		
Type1	#8 None	
Title1	#8	
Settings	8 »	

Important: ***These applications will become active only after the changes made in the Application screen are saved by pressing <F4> – the SAVE key.***

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Type And Title

Up to eight applications can be entered in this parameter. The “Type #” field indicates the type of session you will be running. The “Title #” parameter should be completed with a name that is meaningful to the operator.

- The available options for the “Type #” field are TESS, ANSI and None. Use the <RIGHT> or <LEFT> arrow key to scroll through the options.
- The “Title #” field needs a name that is meaningful to the operator. In addition, “TESS” and “ANSI” applications require unique titles so that several different sessions of “TESS” and “ANSI” can operate simultaneously. These titles will appear in startup “Display Menu”. Each session will have its own set of parameters.
- To display the “Settings” menu for your application, position the cursor on “Settings”, and press <F1> – the NEXT key.

Note: *Before you can access the “Settings” menu, you must first complete the “Name” and “Type” fields.*

6.20.1 ANSI Settings

04 Ansi		Range
Auto Term #	N»	see text
Terminal #	1	1..1024
Host Conn	»	see text
Screen	»	see text
Xmit Modes	»	see text
Kbd Modes	»	see text
Edit Modes	»	see text
Serial	»	see text
Host Char Set	»	see text
Anchor View	N»	see text

Each session you create has its own “Settings” parameters. Additional ANSI information is documented in “ANSI Emulation” on page 146.

Auto Term#

Note: *Refer to “Group” on page 177 for additional instructions.*

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When this parameter is set to “Y”, a unique number is assigned for the ***current ANSI session***. If “Auto Term#” is set to “Y”, any value assigned to the “Terminal #” parameter is ignored.

Note: *“Auto Term#” is available when* `802.IQv2` *is assigned to the “Host Conn” parameter or when* `802.IQv1` *is enabled in the Radio Menu (see “802.IQ v1” on page 162).*

Group

Auto Term#	Range
Group 1	1-5

When “Auto Term#” is set to “Y”, the ‘Group’ parameter is used to identify the *group* or pool of numbers from which an auto-address is chosen.

Terminal

For ***every*** application session you create, the “Terminal #” assigned must be non-zero and unique. This parameter defines the number for the ANSI session and uniquely identifies all transmissions to and from the 8525.

Other applications running in the 8525, such as a TESS session or another ANSI session must ***each*** have a different number. In addition, each Psion Teklogix 8525 using the radio link must have a unique number.

6.20.1.1 Host Conn

Host Conn		Range
Conn Type	Telnet	802.IQv2 9010t Telnet Narrow Band
Settings	»	see text

Conn Type

The options for this a parameter vary depending on the type of application you are running – ANSI or TESS and the type of radio installed in your 8525.

For ANSI applications, this parameter allows you to choose one of the following types of connections: `802.IQv2, 9010t` (TCP Direct), `Telnet` and `Narrow Band.` Keep in mind that choosing `Telnet` allows the 8525 to communicate directly with the host.

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Settings

Note: *The "Settings" sub-menu is* ***not*** *available when* `802.IQv2` *is selected as the "Conn Type". In addition, this sub-menu varies depending on which option you've selected –* `Telnet` *or* `9010t`.

Telnet Settings		Range
Host		see text
Port	23	0-32767
Terminal Type	VT220	see text
ENTER Pmpt	Press ENTER to connect	see text
ESC Prompt	Press ESC to cancel	see text
Auto Login	N»	Y/N
Func Key Remap	N»	Y/N
Arrow Key Remap	N»	Y/N

9010t Settings		Range
Host		see text
Port	9999	0-9999

Host

This parameter is used to assign a host IP address using the format ###.###.###.### or a host name if DNS is used.

Port

"Port" specifies the `9010t` (TCP Direct) or `Telnet` port number. The default `9010t` port number assigned is 9999, the maximum allowable value. The default `Telnet` port number assigned is 23 with a maximum allowable value of 32767.

Terminal Type

This parameter allows the 8525 to perform its own emulation (as opposed to the controller). The value assigned to this parameter informs the host of the terminal type the session is emulating.

ENTER Pmpt

This string indicates that the 8525 is waiting for the user to press <ENTER> at the time of connection.

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ESC Prompt

This string indicates that the user can press the <ESC> key to terminate a connection attempt before the connection is established.

Auto Login

Auto Login		Range
Login Prompt	gin:	see text
Login		see text
Password Prompt	word:	see text
Password		see text
Password Echo	Y	Y/N
Login Failed	incorrect	see text

The “Auto Login” parameters are used to define whether or not the 8525 will attempt to log in automatically.

The Auto Login sequence is as follows:

1. Host sends “Login Prompt”.
2. 8525 responds with “Login”.
3. Host sends “Password Prompt”.
4. 8525 responds with “Password”.
5. Host may send password echo.
6. 8525 ignores password echo if “Password Echo” is set to “Y”, otherwise skip to step 7.
7. 8525 looks for “Login Failed” in next transmission from host.
8. Login successful or Login failed and return to step 1.

Login Prompt

When the unit receives the string assigned to this parameter, it will respond with “Login”.

Login

The unit responds with this string when it receives a “Login Prompt”.

Password Prompt

When the 8525 receives this string, it responds with a “Password”.

Password

The computer responds with this string when it receives a “Password Prompt”.

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Password Echo

When this parameter is set to “Y”, the host will echo data back to the terminal after receiving a “Password”.

Login Failed

When the unit receives this string, it assumes that the login attempt has failed and returns to the “Enter Pmpt”.

Func Key Remap

In ANSI, each function key has a default string associated with it. When a function key is pressed, the corresponding default string is sent to the host. The ‘Func Key Remap’ table allows these function key character sequences to be redefined.

07 Func Key Remap

F 1	1B	4F	50	00	00	00	00
F 2	1B	4F	51	00	00	00	00
F 3	1B	4F	52	00	00	00	00
•							
•							
•							
F28	1B	5B	34	32	7E	00	00
F29	1B	5B	34	33	7E	00	00
F30	1B	5B	34	34			

To change values:

- Press the <UP> or <DOWN> arrow key to highlight a function key.
- Press the <TAB> key to move through the string of values.
- Either type new values, or press the <LEFT> or <RIGHT> arrow key to change the values.

Arrow Key Remap

In ANSI, the arrow keys have a default string associated with them to move the cursor in the direction of the arrow. The 'Arrow Key Remap' table allows the arrow key character sequences to be redefined.

07 Arrow Key Remap					
Up Arrow	1B	5B	41	00	00
Down Arrow	1B	5B	42	00	00
Right Arrow	1B	5B	43	00	00
Left Arrow	1B	5B	44	00	00

To change arrow key values:

- Press the <UP> or <DOWN> arrow key to highlight an arrow key.
- Press the <TAB> key to move through the string of values.
- Either type new values, or press the <LEFT> or <RIGHT> arrow key to change the values.

6.20.1.2 Screen

05 Screen		Range
# of Pages	4	0..16
# of Rows	24	4..60
# of Cols	80	80 or 132
Default Font	16x30	see text
80-col. Font	16x30	see text
132-col. Font	16x30	see text
Video	»	see text
Label F1-F10	»	see text
Colour override	N»	see text

of Pages

This parameter defines how many pages are accessible to application programs. The ANSI control functions – Next Page (NP) and Previous page (PP) – are used to select another page. These pages are independent of each other so that if lines of text scroll off a page, the other pages are unaffected.

There is no error indication from the vehicle-mount computer if the memory required by the selected number and size of pages exceeds the memory available in the computer.

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of Rows

This parameter defines the logical page length (in lines) used by the host computer application. Emulator systems trim the host application screens to this length. This page length cannot be smaller than the length of the vehicle-mount's display. Display panning is used if the page is longer than the display.

Note: *The value in this parameter must be an even number.*

of Cols

This parameter defines the logical page width (in characters) used by the host computer application. Emulator systems trim the host application screens to this width. This page width cannot be smaller than the width of the display. Display panning is used if the page is wider than the display.

Note: *The value in this parameter must be an even number.*

Default font

This parameter determines the default font that appears when the 8525 memory is reset.

- Use the <RIGHT> or <LEFT> arrow key to scroll through the available options.

80-col. font & 132-col. font

These parameters are used to set the font size on the screen if the default font is not acceptable. An escape sequence must be sent from the host before a vehicle-mount can switch to either `80-col.font` or `132-col.font`.

- Use the <RIGHT> or <LEFT> arrow keys to scroll through the size options for these parameters.

Video

06 = Video		Range
Bold	NONE	see text
Blink	BLNK	see text
Reverse	REV	see text
Underline	ULIN	see text

The possible attributes for these parameters are: “BLNK” (blink), “ULIN” (underline), “REV” (reverse), and “NONE” (normal).

Bold

This parameter specifies the actual video attributes to be assigned to fields created with the “Bold” ANSI attribute.

Blink

This parameter specifies the actual video attributes to be assigned to fields created with the “Blink” ANSI attribute.

Reverse

This parameter specifies the actual video attributes to be assigned to fields created with the “Reverse” ANSI attribute.

Underline

This parameter specifies the actual video attributes to be assigned to fields created with the “Underline” ANSI attribute.

Label F1-F10

Note: *This menu uses string entry fields. For detailed information about completing this type of field, refer to* “String Entry Parameters” on page 156.

```
06 = Label F1-10
F1
•
•
•
F10
```

Softkeys are function keys that have been programmed to perform specific actions in your application. These keys are identified through ***softkey labels*** – reverse video labels that are displayed at the bottom of the screen. These softkey ***labels*** can be reconfigured using the menu attached to the "Label F1-F10" parameter.

To edit a label:

- Position the cursor in the appropriate function key field within the Label menu, and type a new name – preferably one that describes the corresponding key's function.

Note: *The number of allowable characters in a softkey label is dynamically calculated based on the screen size and the number of softkeys the unit supports*

Colour Override

Note: *This menu is available only if the 8525 is equipped with a colour display.*

06 Colour Override		Range
Foreground	Black	see text
Background	White	see text

Foreground And Background

When "Colour Override" is set to 'Y', the colours chosen in this menu are displayed in the ANSI sessions. These colour settings will override the "Default Colours" set from within the "View Manager" menu. Refer to "Default Colours" on page 175 for details.

The allowable values are: `Red`, `Green`, `Yellow`, `Blue`, `Magenta`, `Cyan`, `White` and `Black`.

6.20.1.3 Xmit Modes

05 Xmit Modes		Range
Xmit Count	99	0..99
Xmit Wait	1	0..999
Dev Attr	←[?62;1;2;6c	see text
Auto-Answer		see text
7 bit	Y	Y/N
Block Mode	»	see text

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Xmit Count

This parameter determines how many characters from the keyboard or scanner are buffered by the 8525 before being transmitted to the host. If 0 (zero) is selected, the vehicle-mount transmits only according to the "Xmit Wait" parameter. If the ANSI block mode features are used, this parameter should be set to 99.

Note: *If the 8525 is not in local edit mode, the* <ENTER>*, arrow,* <CTRL>*, and function keys cause an immediate radio transmission regardless of the "Xmit Count" parameter setting.*

Xmit Wait

This parameter determines the length of time the 8525 collects keystrokes before transmitting them to the host. This value is specified in increments of one 10th of a second (i.e., a value of 10 represents 1 second). If 0 (zero) is selected, the computer transmits only according to the "Xmit Count" parameter.

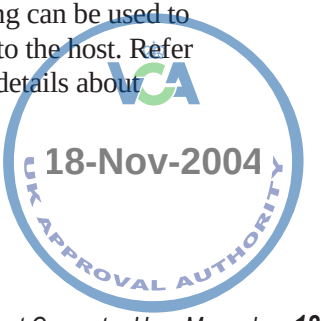
Note: *If the 8525 is not in local edit mode, the* <ENTER>*, arrow,* <CTRL>*, and function keys cause an immediate radio transmission regardless of the "Xmit Wait" parameter setting.*

Dev Attr

This string entry parameter specifies a device attribute string. This string can be up to 16 characters long. The computer sends this string to the host when it receives a DA or DECID control. The example shown in the "Xmit Modes" screen sample on page 184 is the device attribute sent to a VAX, identifying the Psion Teklogix vehicle-mount computer as a VT220 terminal. This parameter may or may not be set, depending on the requirements of the host computer.

Auto-Answer

This string can be up to 30 characters long and is sent by the 8525 as a reply to an "ENQ" character from the host. The "Auto-Answer" string is programmable in the same manner as the keyboard macros. For example, this string can be used to automatically send the username and password when logging into the host. Refer to "Macro Control Panel" beginning on page 164 for additional details about macros.



7 bit

When this parameter is disabled (set to "N"), the vehicle-mount computer transmits 8 bit controls. When enabled (set to "Y"), the vehicle-mount transmits 7 bit controls. This parameter applies to character mode, block mode, and media copy mode.

Block Mode

```
06= Block Mode
Kbd lock          N
Xmit key          N
FETM              N
GATM              N
MATM              N
SATM              Y
TTM               Y
EOL chars
EOB chars
```

All modes in this section affect the data stream sent to the host computer, the serial port and the console port. These modes apply to the Block mode (Local Editing) and the Media Copy function, unless otherwise noted. Consult the *Teklogix ANSI Terminal Programmer's Manual* for more information.

Kbd lock

When this parameter is disabled (set to "N"), the 8525 does not lock the keyboard after a block mode transmission. When enabled (set to "Y"), the keyboard is locked after a transmission. The application program must unlock the keyboard by resetting the Keyboard Action Mode (KAM), using the Reset Mode (RM) or Enable Manual Input (EMI) controls.

Xmit key

When this parameter is disabled (set to "N"), the key that causes the 8525 vehicle-mount
to transmit is not sent to the host as part of the transmitted data. When enabled (set to "Y"), the key that causes a transmission is sent after the page data has been sent to the host. This parameter applies only to block mode.

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FETM

When the Format Effector Transfer Mode (FETM) parameter is disabled (set to "N"), Format Effectors are inserted in data sent to the host or included in data when transferred to the console or serial ports. When enabled (set to "Y"), the Format Effectors are not inserted into the data sent to the host and are not included in the data transferred to the console or serial ports.

GATM

When the Guarded Area Transfer Mode (GATM) parameter is disabled (set to "N"), only unguarded data is transmitted to the host or transferred to the console or serial ports. When enabled (set to "Y"), both guarded and unguarded data can be transmitted to the host or transferred to the console or serial ports.

MATM

When the Multiple Area Transfer Mode (MATM) parameter is disabled (set to "N"), only the selected area containing the cursor can be transmitted to the host or transferred to the console or serial ports. When enabled (set to "Y"), all selected areas can be transmitted to the host or transferred to the console or serial ports. This mode is significant only if the Selected Area Transfer Mode (SATM) is disabled.

SATM

When the Selected Area Transfer Mode (SATM) parameter is disabled (set to "N"), the selected areas defined by SSA/ESA and DAQ can be transmitted to the host or transferred to the console or serial ports. When enabled (set to "Y"), the full contents of the buffer can be transmitted to the host or transferred to the console or serial ports.

TTM

When the Transfer Termination Mode (TTM) parameter is disabled (set to "N"), the cursor position determines the end of the string that can be transmitted to the host or transferred to the console or serial ports. When enabled (set to "Y"), the cursor position is ignored.

EOL chars

This string entry parameter specifies a string of up to 8 characters that are sent after each line in a block transmission. If the parameter is not used, the rules specified in "Transmitted Data Stream" are used to determine end of line characters.

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EOB chars

This string entry parameter specifies a string of up to 8 characters that are sent after each block transmission.

6.20.1.4 Kbd Modes

05 Kbd Modes		Range
Arrow mode	cursor	cursor, field
Echo mode	Smart	Smart, Local, Host
DEL key	DEL	BS, CLEAR
BKSP key	BS	DEL, CLEAR
PrintScreen key	16	1..255
Xmit Enter	Y	Y/N
Insert	N	Y/N
Newline	N	Y/N
Disable kbd	N	Y/N
DEC Cursor Keys	cursor mode	see text

Arrow mode

This parameter determines whether arrow keys move the cursor within a field or between fields. When set to “field”, pressing an arrow key causes the cursor to move to the next field in the direction of the arrow. When set to “cursor”, pressing the <LEFT> and <RIGHT> arrow keys move the cursor within the current field.

Echo Mode

This parameter selects echo mode for the 8525. The available modes are “Local”, “Host”, and “Smart”.

Local: In this mode, any character entered using the keyboard is displayed before being sent to the host. Certain keys cause additional action at the 8525, as shown in Table 6.4 on page 189.

Host: In this mode, the vehicle-mount computer sends all keyboard entries to the host and displays only data received from the host.

Smart: This mode reduces or eliminates the delay between typing a character on the keyboard and displaying the character echoed by the host computer. The 8525 displays all printable characters on the

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screen before sending them to the host. The vehicle-mount compares the characters echoed by the host to the characters placed on the page and fixes the display if the host echoes are different.

The maximum number of characters waiting for echo is 25. Any additional characters are sent to the host but not displayed. When the 8525 is in *insert* mode, smart echo is disabled.

Key	Function
ENTER	In newline mode, this key moves the cursor to the first column of the next line. In line feed mode, this key moves the cursor to column one of the current line.
CTRL-G (Bell)	The 8525 beeps.
CTRL-H (Backspace)	The cursor moves back one space.
CTRL-I (Tab)	The cursor moves to the next horizontal tab stop.
CTRL-J (Line Feed) CTRL-L (Form Feed)	The cursor moves down one line in the same column.
CTRL-K (Vertical Tab)	The cursor moves down to the next line with a vertical tab set.
DEL	This key deletes the character to the left of the cursor and moves the cursor to the left by one position.

Table 6.4 Function Of Special Keys In Local Echo Mode

DEL Key

This parameter determines whether the <DEL> key acts as a delete key, erasing the character to the right of the cursor, or a backspace key, erasing the character to the left of the cursor or as a clear key, erasing the contents of a field.

BKSP Key

This parameter determines whether the <BKSP> key acts as a backspace key, erasing the character to the left of the cursor, as a delete key, erasing the character to the right of the cursor or as a clear key, erasing the contents of a field.

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PrintScreen Key

This parameter determines the “hot-key” for printing the screen contents via the 8525 serial port. The default is <CTRL> P (16).

Note: *The 8525’s port must be set to “printer” (see“Ports– Tether And Console” on page 217).*

Xmit Enter

The <ENTER> key normally enters data into a field and moves the cursor to the next field. However, some applications require that the <ENTER> key start a transmission from the 8525. When enabled (set to “Y”), this parameter causes the <ENTER> key to start a transmission.

Insert

When this parameter is disabled (set to “N”), it behaves in “replace” mode – a character entered at the keyboard or received from the host replaces the character at the cursor position. The cursor then advances one character position. When enabled (set to “Y”), the character entered at the keyboard or received from the host is inserted at the cursor position after shifting the characters at and following the cursor forward one position. The cursor is advanced one position. The extent of the characters affected by the shift depends on the setting of the “Edit Extent” parameter (see page 191).

Newline

When this parameter is disabled (set to “N”), an LF character received from the host causes the cursor to move down one line in the same column. In addition, the <ENTER> key transmits a CR. When enabled (set to “Y”), an LF character received from the host causes the cursor to move to the first column of the next line. The <ENTER> key transmits both a CR and an LF.

Disable kbd

Setting this parameter to “Y” disables the keyboard and scanner. When this parameter is set to “N”, the keyboard and scanner are enabled.

DEC Cursor Keys

This parameter can be set to either `Cursor Mode` or `Appl. Mode`. *Cursor Mode* causes the cursor keys to generate ANSI cursor control sequences. *Application Mode* causes the cursor keys to send application control functions.

6.20.1.5 Edit Modes

04= Edit Modes		Range
Auto wrap	N	Y/N
Erasure mode	N	Y/N
Tab stop mode	N	Y/N
Edit extent	Line	see text
Disp controls	N	Y/N

Auto wrap

If “Auto wrap” is disabled (set to “N”), characters received when the cursor is at the right edge of the screen replace the previously displayed characters. If “Auto wrap” is enabled (set to “Y”), the cursor wraps to the next line when the current line is filled. The display scrolls up if the cursor is at the bottom margin.

Erasure mode

When this parameter is disabled (set to “N”), erase functions can only erase unprotected characters. When enabled (set to “Y”), the erase functions can erase characters regardless of their protected state.

Tab stop mode

When this parameter is disabled (set to “N”), the setting and clearing of horizontal tab stops apply to the same horizontal position of all lines on the page. When enabled (set to ‘Y”), horizontal tab setting and clearing apply only to the current line.

Edit extent

This parameter selects the extent of the display to be affected by the ICH and DCH controls and received character insertion. The possible values are `Line`, `Area`, `Display` or `Fld`. The shifting caused by ICH, DCH and character insertion is confined to the selected extent.

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Disp controls

When this parameter is disabled (set to “N”), any control codes received from the host are performed as described. When enabled (set to “Y”), any received control functions are displayed and are not performed. If any C0 or C1 controls are received from the host, their standard ANSI mnemonics are displayed in reverse video. Other characters are displayed as normal characters. This mode can also be set with the Set Mode (SM) control but can only be reset from the Parameters menu.

6.20.1.6 Serial

05 Serial		Range
Primary Port	Any Available	see text
Secondary Port	Any Available	see text
Async In	N	Y/N
Start	0	0..255
End	0	0..255

Primary Port & Secondary Port

ANSI print commands (such as ‘MC’ or Media Copy) control the transfer of data to and from the serial and console ports on the 8525. At the 8525, the value assigned at the ‘Primary Port’ and ‘Secondary Port’ parameters determines which port the ANSI print command will identify and use as primary and secondary. The allowable options are: `Any Available`, `1st printer`, `2nd printer`, `3rd printer`, `4th printer`, `1st Serial`, `2nd Serial`, `3rd Serial`, `4th Serial` and `Disabled`.

Async In

When this parameter is enabled (set to “Y”), the serial (async) port is ready to receive input at all times.

Start/End

These parameters specify the “start” and “end” characters of input received from the serial (async) port.

6.20.1.7 Host Char Set

The 'Host Char Set' menu allows you to specify a character set in the 'Lower' and 'Upper' character tables.

```
05 = Host Char Set
Lower  ASCII ISO-IR 006
Upper  DEC Multinational
```

Note: *When an 8-bit set is selected from the 'Lower' character set, the 'Upper' character set will change to the same value. The 'Upper' character set cannot be altered until a non-8-bit value is assigned for the 'Lower' character set.*

To choose 'Lower' and 'Upper character sets:

- Position the cursor on the 'Lower' or 'Upper' parameter, and press the <RIGHT> or <LEFT> arrow key to display the character set options.
- Press <F4> to save your selection to memory.

Important: ***When a character sent from the host cannot be displayed, a rectangular box is used as a substitute.***

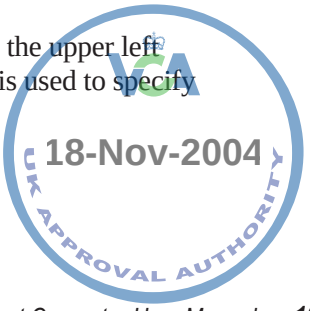
6.20.1.8 Anchor View

```
05 = Anchor          Range
x origin      1      1..24
y origin      1      1..80
```

When enabled (set to "Y"), this parameter locks the display at a defined location on the screen, preventing it from shifting when the cursor is moved. The "x origin" and "y origin" coordinates specify where the screen origin, the upper left corner of the screen, will be fixed.

x origin and y origin

The "x origin" parameter is used to specify the column to which the upper left corner of the screen will be anchored. The "y origin" parameter is used to specify the row coordinate to which the screen will be anchored.



6.20.2 TESS Settings

04 = TESS		Range
Auto Term #	N»	
Terminal #	1	see text
Host Conn	»	see text
Screen	»	see text
Characters	»	see text
Tests	»	see text
Features	»	see text
Scanner	»	see text
Fields	»	see text
Anchor View	N»	see text
Emulation	»	see text

Each session you create has its own “Settings” parameters. Additional TESS information is documented in “TESS Emulation” on page 137.

Auto Term#

Note: *“Auto Term#” is available when* `802.IQv2` *is assigned to the “Host Conn” parameter (page 195) or when* `802.IQv1` *is enabled in the Radio Menu (see “802.IQ v1” on page 162).*

When this parameter is set to “Y”, a unique unit number is assigned for the ***current TESS session***. If “Auto Term#” is set to “Y”, any value assigned to the “Terminal #” parameter is ignored.

Group

Auto Term#		Range
Group	1	1-5

When “Auto Term#” is set to “Y”, the ‘Group’ parameter is used to identify the *group* or pool of numbers from which an auto-address is chosen.

Terminal

For ***every*** application session you create, the “Terminal #” assigned must be non-zero and unique. This parameter defines the terminal number for the TESS session and uniquely identifies all transmissions to and from the 8525.

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Other applications running in the 8525, such as an ANSI session or another TESS session must ***each*** have a different number. In addition, each Psion Teklogix 8525 using the radio link must have a unique number.

6.20.2.1 Host Conn.

Host Conn		Range
Conn Type	802.IQv2	see text
Settings	»	see text

Conn Type

For TESS applications, this parameter allows you to choose one of the following types of connections: `802.IQv2`, `9010t` (TCP Direct), `2392/Telnet`, `3274/Telnet`, `5250/Telnet` and `Narrow Band`.

Settings

Note: *The "Settings" sub-menu is not available when* `802.IQv2` *is selected as the "Conn Type"*

Settings		Range
Host		see text
Port	9999	0-9999

Host

This parameter is used to assign a host IP address using the format ###.###.###.###

Port

"Port" specifies the port number. By default, the port is assigned the value 9999.

6.20.2.2 Screen

05 Screen		Range
# of Cols	80	20..132
# of Rows	24	4..100
Origin Scroll	N	Y/N
Field Scroll	N	Y/N
Pages Saved	16	1..16
App. Parameter	0	-1..79
Label F1-F10	»	see text
Colour Override	N»	see text

of Cols

This parameter defines the logical page width (in characters) used by the host computer application. Emulator systems trim the host application screens to this width. This page width cannot be smaller than the width of the 8525 display. Display panning is used if the page is wider than the display.

Note: *The value in this parameter must be an even number.*

of Rows

This parameter defines the logical page length (in lines) used by the host computer application. Emulator systems trim the host application screens to this length. This page length cannot be smaller than the length of the vehicle-mount computer's display. Display panning is used if the page is longer than the display.

Note: *The value in this parameter must be an even number.*

Origin Scroll

When enabled (set to "Y"), the display window moves to the origin (upper-left corner) after "LOCK-H" or "LOCK-B" messages.

Field Scroll

When enabled (set to "Y"), the display window moves to the left after entering a new entry field.

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Pages Saved

This parameter determines the number of pages that can be stored and recalled at the 8525. Storing frequently used page data at the 8525 reduces the need for the host to retransmit complete page data over the radio link. Retransmitting data can reduce the system response time. Increasing the number of saved pages decreases the available memory for other functions.

App. Parameter

The “Application” parameter is sent to the host system as part of the response to the TESS query command. Enter zero to disable this parameter.

Label F1-F10

Note: *This menu uses string entry fields. For detailed information about completing this type of field, refer to “String Entry Parameters” on page 156.*

```
06 = Label F1-F10
F1
•
•
•
F10
```

Softkeys are function keys that have been programmed to perform specific actions in your application. These keys are identified through ***softkey labels*** – reverse video labels that are displayed at the bottom of the screen. These softkey ***labels*** can be reconfigured using the menu attached to the “Label F1-F10” parameter.

To edit a label:

- Position the cursor in the appropriate function key field within the Label menu, and type a new name – preferably one that describes the corresponding key’s function.

Note: *Although you can enter up to 8 characters for each softkey label, the text will be shortened to better fit in the available space on your display.*

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Colour Override

Note: *The menu is available only if your 8525 is equipped with a colour display.*

```
06 Colour Override        Range
Foreground    Black       see text
Background    White       see text
```

Foreground And Background

When “Colour Override” is set to ‘Y’, the colours chosen in this menu are displayed in the TESS sessions. These colour settings override the “Default Colours” set from within the “View Manager” menu. Refer to “Default Colours” on page 175 for details.

The allowable values are: `Red`, `Green`, `Yellow`, `Blue`, `Magenta`, `Cyan`, `White` and `Black`.

6.20.2.3 Characters

```
05 Characters                Range
Char Set          »          see text
V Match Char      0          0..255
H Match Char      0          0..255
Fill Chr          46         0..255
Upper Case        N          Y/N
```

Char Set

```
06 Char Set
ISO          N »
IBM          Y »
DEC          N »
Misc.        N »
```

This menu contains all the character sets available with your Psion Teklogix computer. In this menu, the “Y” or “N” is used to visually guide you to the selected character set. For example, in the sample menu above, the “Y” next to IBM indicates that a character set has been chosen from this group.

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To choose a character set:

- Position the cursor on the appropriate item – for example, ISO – and press <F1> to display the character set options.
- To activate a character set, press the <RIGHT> or <LEFT> arrow key to set it to "Y".

Important: ***If you choose a Chinese character set from the 'Misc.' menu and a character sent from the host cannot be displayed on the 8525 screen, a shaded box character is used as a substitute. Please review "Default font" on page 208.***

If you are using a Korean character set, a right arrow character is used as a substitute.

V Match Chr

This parameter enables visible field matching and defines the character that identifies visible field match data from the host. Field matching allows the host to pre-load data into an entry field that is compared with the user's input. The vehicle-mount beeps if
the entered data does not match. Visible field matching means that the data to be matched is displayed in the entry field.

Enter the decimal value for the ASCII character that will be used by the host to identify visible match field data. Enter 0 (zero) to disable this feature.

Note: *Another method of field matching is available directly through the TESS data stream.*

H Match Chr

This parameter enables hidden field matching and defines the character that identifies hidden field match data from the host. Field matching allows the host to pre-load data into an entry field that is compared with the user's input. The 8525 beeps if the entered data does not match. Hidden field matching means that the data to be matched is not displayed in the entry field.

Enter the decimal value for the ASCII character that will be used by the host to identify hidden match field data. Enter 0 (zero) to disable this feature.

Note: *Another method of field matching is available directly through the TESS data stream.*

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Fill Chr

This parameter specifies the character that identifies empty entry fields. Enter the ASCII decimal equivalent of this character. The most commonly used characters are:

_	(underline)	Enter 95
.	(period)	Enter 46

Note: *8525s in some systems may use the "space" character with the host using reverse video attributes to mark entry fields.*

Upper Case

When this parameter is enabled (set to "Y"), lowercase input is converted to uppercase.

6.20.2.4 Tests

05= Tests		Range
AutoRep Fn	7	0..63
AutoRep T/O	5	0..255

AutoRep Fn

This parameter determines which function key is sent to the host in auto reply mode. The value represents the number of the function key – ***not*** the ASCII decimal equivalent. After sending this key, the unit locks and waits for the host to unlock the 8525. To disable "AutoRep Fn", set the "AutoRep T/O" parameter to zero.

AutoRep T/O

This parameter determines the time (in seconds) between the 8525 unlocking and the next transmission of the function key specified by the above parameter. A value of zero disables auto reply mode.

6.20.2.5 Features

05= Features		Range
Printer	Any Available	Y/N
Binary print	N	Y/N
Queuing	Y	Y/N
Lcl Process	Y »	see text
Send Mile	N	Y/N
Next X	N	Y/N
Kbd Locked	N	Y/N
Remap Passthru	N	Y/N
Disable Beep	N	Y/N
Serial	»	see text

Printer

The value assigned for the "Printer" parameter determines which port the print command will use. The allowable options are: `Any Available`, `1st printer`, `2nd printer`, `3rd printer`, `4th printer` and `Disabled`.

Binary print

When this parameter is enabled (set to "Y"), the page displayed on the 8525 computer is spooled as is, except for trailing white-space removal. When disabled (set to "N"), each line of the page displayed on the vehicle-mount is preceded by a linefeed (LF) and followed by a carriage return (CR).

Queuing

This parameter enables and disables queuing mode (see "Queuing Mode" on page 146). It also enables TESS procedures to be loaded into the 8525. This parameter should be enabled if local procedures and the ability to switch between hosts within a TESS session are required. Changes to this parameter take effect only after the 8525 is reset.

Lcl Process – Save on Reset

The menu item "Local Process" has a sub-menu attached to it – "Save on Reset". When this parameter is enabled (set to "Y"), data stored in the 8525 is saved if the unit is reset. Local procedures are defined on page 145.

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Send Mile

This parameter controls the sending of a milestone from the 8525 after a “hey_you” command. Consult the *Teklogix Screen Subsystem (TESS) User Manual* for more information on milestones.

Next X

This parameter enables and disables the next messages used in queuing mode.

Kbd Locked

This parameter allows you to lock (set to “Y”) or unlock (set to “N”) the keyboard for all alphanumeric input in TESS. When the keyboard is locked, the function keys, arrow keys and the <ENTER> key are still functional. The 8525 emits an error beep if a character is rejected because the keyboard is locked. Changes to this parameter take effect only after the unit is reset.

Remap Passthru

When this parameter is set to “Y”, passthru data is remapped from the host charset to the port charset. (Normally passthru data is sent as is to the port without any remapping.)

Disable Beep

Setting this parameter to “y” disables the beep generated by the ‘o’, ‘G’ and ‘#’ TESS commands. Keep in mind that Error and Scan beeps are ***not*** disabled.

Serial

06= Serial		Range
Serial Port	Any Available	see text
Serial Out	Y	Y/N
Serial In	N	Y/N
SI mode		see text
SI prefix	10	0..255
SI suffix	13	0..255
SI CRC	N	Y/N
SI Fkey	0	0..255
SO prefix	10	0..255
SO suffix	13	0..255
SO CRC	N	Y/N

Serial Port

TESS print commands control the transfer of data to and from the serial and printer ports on the 8525. At the 8525 computer, the value assigned at the 'Serial Port' parameter ranks which port the TESS print command will identify and use as the first to fourth port. The allowable options are: `Any Available`, `1st Serial`, `2nd Serial`, `3rd Serial`, `4th Serial` and `Disabled`.

Serial Out

This parameter enables serial port output fields.

Serial In

This parameter enables the serial port input fields. If enabled (set to "Y"), the TESS application has exclusive use of the serial port. Acceptance of data in a SI field is determined by the SI prefix and suffix.

SI mode

The possible values for this parameter are `field` (the default) and `command`. When the SI mode is set to `field`, data received through the serial port is displayed in the serial input fields. If you are using *serial-input fields*, make sure the "SI mode" parameter is set to `field`.

When "SI mode" is set to `command`, data received by the serial port is transmitted as Passthrough data to the host.

Note: *"Command" mode is supported by SDKs but* ***not*** *by emulations.*

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SI prefix

This parameter determines the start-of-message character on serial input. Enter an ASCII numeric equivalent from 0 to 255 to represent the start character. A value of `0` (zero) indicates no prefix.

SI suffix

This parameter determines the end-of-message character on serial input. Enter an ASCII numeric equivalent from 0 to 255 to represent the end character. A value of `0` (zero) indicates no suffix.

SI CRC

This parameter enables or disables CRC validity check on serial input. When enabled (set to "Y"), a packet is rejected if the CRC is not valid.

Also, when this parameter is enabled (set to "Y"), each time a DLE (^P=0x10) character is encountered in the serial input, it is removed and the character following it will be replaced with its 1's complement.

SI Fkey

This parameter allows you to choose the function key you want appended to the serial input. For example, entering a value of "1" appends <F1> to serial input. A value of "0" (zero) disables this parameter; a suffix is not added.

Note: *Data is transmitted as soon as the function key has been appended.*

SO prefix

This parameter determines the start-of-message character on serial output. Enter an ASCII numeric equivalent from 0 to 255 to represent the start character. A value of "0" (zero) indicates no prefix.

SO suffix

This parameter determines the end-of-message character on serial output. Enter an ASCII numeric equivalent from 0 to 255 to represent the end character. A value of "0" (zero) indicates no suffix.

SO CRC

When this parameter is enabled (set to “Y”), a CRC16 value is appended to the serial output message.

Also, when this parameter is enabled (set to “Y”), for each control character in the serial output stream, a DLE is inserted to precede that character. The control character is replaced with its 1’s complement.

6.20.2.6 Scanner

05 Scanner		Range
Cont Nxt Fld	Y	Y/N
Append Enter	Y	Y/N
Append F0	Y	Y/N
Mixed AIAG	N	Y/N
Rjct if Alpha	N	Y/N
Beam Lockout	N	Y/N

Cont Nxt Fld

This parameter only applies to string entry data. When enabled (set to “Y”), this parameter allows bar codes that are longer than the field length to continue in the next field.

If “ContNxtField” is disabled (set to “N”), OFF data will flow into the next field.

Append Enter

When enabled (set to “Y”), “Append Enter” causes an <ENTER> code to be appended to the bar code. The <ENTER> code completes the entry of the bar code and moves the cursor to the next field.

Append F0

When enabled (set to “Y”), this parameter causes an <F0> code to be appended to the bar code. The <F0> code completes the entry of the bar code data in the field.

Mixed AIAG

When this parameter is enabled (set to “Y”), AIAG labels are always accepted and processed – even if mixed with keyboard input. The AIAG label can replace the partially entered keyboard data. If this parameter is disabled, AIAG labels are rejected if field entry is in progress.

Rjct if Alpha

When the cursor is in a numeric field and “Rjct if Alpha” is enabled (set to “Y”), bar codes containing alphabetic characters are rejected.

Beam Lockout

When enabled (set to “Y”), this parameter disallows scanner use when the current session is in “LOCK-H” mode.

6.20.2.7 Fields

05 Fields		Range
Field Order	Y	Y/N
Enter To F0	Y	Y/N
Enter On Arrow	Y	Y/N
Video	»	see text
All Fld Video	Y	Y/N
Default Font	16x30	see text
Entry Mode	field	see text
Open Fky Only	N	Y/N
Ign Bcode_fld	N	Y/N
Enh Edit Mode	N	Y/N
Valid Numerics	+-%*/.,$	see text

Field Order

This parameter determines the mode of cursor movement between fields. The *next* field can be defined by location on the screen or by the assignment of field numbers. When enabled (set to “Y”), the cursor moves according to field location. If disabled (set to “N”), the cursor moves according to the numeric order of the fields.

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Enter To F0

The <ENTER> key normally enters data into a field and moves the cursor to the next field. However, some applications require that the <ENTER> key start a transmission from the 8525. When enabled (set to "Y"), this parameter causes the <ENTER> key to be interpreted as <F0> which starts a transmission.

Enter On Arr

When this parameter is enabled (set to "Y"), the arrow keys can be used to complete data entry into a field.

Video

06 Video		Range
Blink	BLNK	see text
Bold	ULIN	see text
Reverse	REV	see text

Blink

The value assigned to this parameter specifies the actual video attributes to be assigned to fields created with the "Blink" TESS attribute – that is, "BLNK" (blink), "ULIN" (underline), "REV" (reverse) or "NONE" (normal).

Bold

The value assigned to this parameter specifies the actual video attributes to be assigned to fields created with the "Bold" TESS attribute – that is, "BLNK" (blink), "ULIN" (underline), "REV" (reverse) or "NONE" (normal).

Reverse

The value assigned to the "Reverse" parameter specifies the actual video attributes to be assigned to fields created with the "Reverse" TESS attribute – that is, "BLNK" (blink), "ULIN" (underline), "REV" (reverse) or "NONE" (normal).

All Fld Video

Usually, the video attributes apply only to the text that is in an entry field. When this parameter is enabled (set to "Y"), the entire field (including blanks) takes on the video attributes. Some systems use this option to identify empty entry fields with reverse video.

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Default font

This parameter determines the default font that appears when the memory is reset.

- Use the <RIGHT> or <LEFT> arrow key to scroll through the options.

Entry Mode

"Entry Mode" parameters allow you to select a data entry mode. The modes are: `insert`, `replace`, `field` and `fcursor`. "TESS Edit Modes And Cursor Movement" on page 140 describes these modes in detail.

Open Fky Only

When this parameter is enabled (set to "Y"), the screen is open for function keys only, and the cursor is not positioned. When this parameter is disabled, the screen is open for data entry, and the cursor is placed in the first field (if it exists).

Ign Bcode_fld

When this parameter is enabled (set to "Y"), fields that were defined as "bar code only" accept data from the keyboard as well as the bar code reader. In effect, they behave as data entry fields.

Enh Edit Mode

This mode provides extended (enhanced) functions to users of Psion Teklogix' IBM 5250 terminal emulation. When this parameter is enabled (set to "Y"), the arrow keys move the cursor anywhere on the screen, ***unrestricted by fixed or entry fields***.

Certain 5250 emulation keys (e.g. Field Exit) that were originally available only when "Enh Edit Mode" was set to "Y" are now active at all times in TESS applications.

Refer to "IBM 5250 Emulation Keys" on page 139 for details about these keys.

Valid Numerics

This parameter is used to configure valid characters for numeric fields to a maximum of 39 characters. Since this field is numeric, numbers 0 through 9 do not need to be configured. The default values for this parameter are: + - % / . , $.

6.20.2.8 Anchor View

05 = Anchor		Range
x origin	1	1..24
y origin	1	1..80

When enabled (set to "Y"), this parameter locks the display at a defined location on the screen, preventing it from shifting when the cursor is moved. The "x origin" and "y origin" coordinates specify where the screen origin, the upper left corner of the screen, will be fixed.

x origin and y origin

The "x origin" parameter is used to specify the column to which the upper left corner of the screen will be anchored. The "y origin" parameter is used to specify the row coordinate to which the screen will be anchored.

6.20.2.9 Emulation

Note: *These parameters are only accessible when one of the following TESS 'Host Conn' options is selected: '2392/Telnet', '3274/Telnet' or '5250/Telnet'.*

2392/Telnet Emulation

05 = Emulation		Range
Send CR with Fkey	N	Y/N
Features	»	see text

Send CR with FKEY

A function key press generates a string of text to be sent back to the host. If this parameter is enabled, a carriage return is appended to the function key.

Features – 2392/Telnet

06 = Features		Range
Clear Entry Fields	N	Y/N
Passthru Printing	N	Y/N
AIAG Character	0	0-255
Barcode Character	0	0-255
Serial IO Character	0	0-255
Fixed Field Ovrhd	5	0-80
Enable Alarm	N	Y/N
Command Region Up	0	0-24
Command Region Down	0	0-24
Command Region Left	0	0-80
Command Region Right	0	0-80

Clear Entry Fields

When this parameter is set to 'Y', an empty entry field is created in place of an entry field filled with spaces.

Note: *This operation is only performed on screens received from the host. Data sent to the host remains unaffected.*

Passthru Printing

Setting this parameter to 'Y' allows the host to send data directly to the 8525 serial port. This option is most commonly used for printing.

AIAG Character

This parameter is used to enter a decimal representation of the ASCII character code of the AIAG character. A value of 0 (zero) disables this feature.

When a bar code data is scanned, the 8525 searches for AIAG fields on the current page that can accept the bar code data. The application program distinguishes an entry field as AIAG by preceding the field with this special mode character which indicates the existence of AIAG fields.

Barcode Character

Barcode-input-only fields are special entry fields that only accept input from a bar code reader. The application program identifies a barcode-input-only entry field by preceding the field with a special character.

This parameter is used to enter a decimal representation of the ASCII character code of the barcode-input-only character. A value of 0 (zero) disables this feature.

Serial IO Character

Serial I/O fields are special entry and fixed fields that accept input from and output to a serial port. The application program distinguishes this field as Serial I/O by preceding the field with a special character. If this character precedes a *fixed* field, the data will be sent to the 8525's serial port. If it precedes an *entry* field, the field accepts data from the 8525's serial port.

This parameter allows you to enter a decimal representation of the ASCII character code of this special character. A value of 0 (zero) disables this feature.

Fixed Field Ovrhd

This parameter defines the maximum number of characters allowed within two adjacent, fixed fields that can be sent as a single field. For example, if two fields are 4 characters apart and this parameter is set to 5, these fields are joined into a single field of data. The allowable range for this field is 0 to 80.

This feature affects fields with the "Normal" display attribute only.

Enable Alarm

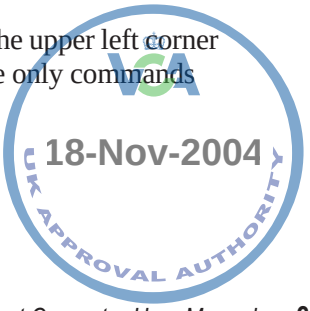
If this parameter is set to 'Y', the 8525 emits a beep when the word ALARM appears on the application screen, in the location specified by the "Command Region" parameter.

Command Region Up & Down And Command Region Left & Right

The value assigned to the 'Command Region Up' and 'Command Region Down' parameters represent rows on the 8525 screen. The allowable values range from 0 to 24.

The value assigned to 'Command Region Left' and 'Command Region Right' parameters represent columns on the 8525 screen. The allowable values range from 0 to 80.

These four numbers represent the row and column addresses of the upper left corner and the lower right corner of the command region. Currently, the only commands supported in the command region are ALARM and FONT:



3274/Telnet Emulation

05 = Emulation		Range
Fujitsu Host	N	Y/N
Intl EBCDIC	N	Y/N
Nulls in Fields	N	Y/N
IP for SysReq	N	Y/N
BRK for Attn	N	Y/N
LU Name Enabled	N	Y/N
LU Name		see text
Features	»	see text
FKEY0-7	»	see text
FKEY8-15	»	see text
FKEY16-23	»	see text
FKEY24-31	»	see text
FKEY32-39	»	see text

Fujitsu Host

If this parameter is set to 'Y', data is sent in Fujitsu format. Enabling 'Fujitsu Host' causes the standard IBM formatting codes (for start of field, setting buffers, etc.) to be replaced by the codes used by Fujitsu host computers.

Intl EBCDIC

If this parameter is enabled (set to 'Y'), the 'international' EBCDIC character set is used, swapping the positions of the ! and] characters.

Nulls in Fields

Setting this parameter to 'Y' allows 'null' characters – e.g., hyphens (-) or periods (.) – to fill in empty entry fields.

IP for SysReq

When the system request key is pressed, a Telnet "Interrupt Process" command is generated. The "Interrupt Process" command is sent to the host in place of the standard mechanism used to send the system request key press to a host using Telnet.

BRK for Attn

When the attention key is pressed, a Telnet “Break” command is generated. This command is sent to the host in place of the standard mechanism used to send the attention key press to a host using Telnet.

LU Name Enabled

If enabled (set to ‘Y’), this parameter allows the 8525 to negotiate a specific device name for itself.

LU Name

The value assigned in this field is used when the “LU Name Enabled” parameter (see above) is set to ‘Y’. The current terminal number is appended to the name to generate a unique device name (for example, LUA00001).

Features – 3274/Telnet

06 = Features		Range
Clear Entry Fields	N	Y/N
Passthru Printing	N	Y/N
AIAG Character	0	0-255
Barcode Character	0	0-255
Serial IO Character	0	0-255
Fixed Field Ovrhd	5	0-80
Enable Alarm	N	Y/N
Command Region Up	0	0-24
Command Region Down	0	0-24
Command Region Left	0	0-80
Command Region Right	0	0-80

These parameters are identical to those described for 2392/Telnet. Refer to "Features – 2392/Telnet" beginning on page 210.

FKEY0-7, FKEY8-15, FKEY16-23, FKEY24-31 And FKEY32-39

06 = FKEY0-7	
FKEY0	ENTER
FKEY1	F1
FKEY2	F2
FKEY3	F3
FKEY4	F4
FKEY5	F5
FKEY6	F6
FKEY7	F7

The sub-menus attached to these parameters allow you to map the 8525 function keys.

5250/Telnet Emulation

05 = Emulation		Range
WEC	Advisory	see text
Remap Underline to	None	see text
Intl EBCDIC	N	Y/N
Nulls in Fields	Y	Y/N
Term Type	IBM-5251-11	see text
Virtual Dev Enable	N	Y/N
Virtual Dev Prefix		see text
Features	»	see text
FKEY0-7	»	see text
FKEY8-15	»	see text
FKEY16-23	»	see text
FKEY24-31	»	see text
FKEY32-39	»	see text

WEC (Write Error Code)

This parameter determines the type of WEC used. If set to “advisory”, a TESS advisory message is generated when the host sends a WEC command to the 8525. Otherwise, if set to “screen text”, the 8525 locks the keyboard and displays the error message contained in the WEC command on the screen at the line specified by the host. In this case, the 8525 must be unlocked manually using the function key mapped to RESET.

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Remap Underline To

This parameter allows you to remap the underline cursor to: `blink`, `bold`, `reverse` or none.

Intl EBCDIC

If this parameter is enabled (set to 'Y'), the 'international' EBCDIC character set is used, swapping the positions of the ! and] characters.

Nulls In Fields

Setting this parameter to 'Y' allows 'null' characters – e.g., hyphens (-) or periods (.) – to fill in empty entry fields.

Term Type

The value assigned for this parameter – IBM-5555-001 or IBM-5251-11 – indicates the type of terminal to report during the Telnet negotiations. It determines how the AS/400 host treats the terminal. IBM-5251-11 is a standard 5250 terminal. IBM-5555-001 is a Korean language terminal.

Virtual Dev Enabled

If enabled (set to 'Y'), this parameter allows the 8525 to negotiate a specific device name for itself.

Virtual Dev Prefix

The prefix assigned in this field is used when the "Virtual Dev Enabled" parameter (see above) is set to 'Y'. The current terminal number is appended to the prefix to generate a unique device name. You can assign up to 9 upper-case alphanumeric characters in this field.

Features – 5250/Telnet

06 = Features		Range
Clear Entry Fields	N	Y/N
Passthru Printing	N	Y/N
AIAG Character	0	0-255
Barcode Character	0	0-255
Serial IO Character	0	0-255
Fixed Field Ovrhd	5	0-80
Enable Alarm	N	Y/N
Command Region Up	0	0-24
Command Region Down	0	0-24
Command Region Left	0	0-80
Command Region Right	0	0-80

These parameters are identical to those described for 2392/Telnet. Refer to "Features – 2392/Telnet" beginning on page 210.

FKEY0-7, FKEY8-15, FKEY16-23, FKEY24-31 And FKEY32-39

06 = FKEY0-7	
FKEY0	ENTER
FKEY1	F1
FKEY2	F2
FKEY3	F3
FKEY4	F4
FKEY5	F5
FKEY6	F6
FKEY7	F7

The sub-menus attached to these parameters allow you to map the 8525 function keys.

6.21 Ports– Tether And Console

```
03 ═══ Ports ═══
Tether Port       Console
Settings 1        »
Console Port      Disabled
Settings 2        »
```

6.21.1 Tether And Console Port Peripheral Options

The “Tether Port” and “Console Port” options allow you to enable, disable and specify the accessories attached to these ports. Both the Tether Port and the Console Port have the same options. These are: `Disabled`, `Serial`, `Console`, `Printer` and `Scan-See`.

To scroll through the options for each port:

- Press the <RIGHT> or <LEFT> arrow key.

These ports operate differently depending on the accessories selected.

- Disabled – indicates that the serial port is not being used.
- Serial – standard serial port.
- Console – used to connect another PC to the 8525. A communication program is required so that communication can proceed between the 8525 and the PC.
- Printer – all TESS print operations are directed to the port. All ANSI media copy operations to the “primary port” are directed to this port.
- Scan-See – TESS and ANSI accepts input from the Scan-See through the Tether or Console port.

6.21.2 Tether, Serial And Console Port Parameter Settings

The parameters for the “Tether Port”, “Serial Port” and “Console Port” are identical.

04 Settings		Range
Character Set »		see text
Baud	9600	see text for range of baud rates
Data Bits	8	6..8
Parity	none	none odd even mark space
Stop Bits	1	1, 1.5, 2
Flow Ctrl	None	None Software Hardware Both
Buffer	512	1..2048
Retries	3	1..100
Input Tmo	2	1..100
Output Tmo	5	1..100
Test	Y	Y/N

Character Set

These menus define the character set for the 8525 port.

Important: ***When a character sent from the host cannot be displayed, a right arrow character is used as a substitute.***

Char Set	
ISO	N »
IBM	Y »
DEC	N »
Misc.	N »

This menu contains all the character sets available with your Psion Teklogix computer. In this menu, the “Y” or “N” are used to visually guide you to the selected character set. For example, in the sample menu above, the “Y” next to IBM indicates that a character set has been chosen from this group.

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Choosing A Character Set

To choose a character set:

- Position the cursor on the appropriate item – for example, ISO – and press <F1> to display the character set options.
- To activate a character set, press the <RIGHT> or <LEFT> arrow key to set it to "Y".

Important: ***If you choose a Chinese character set from the 'Misc.' menu and a character sent from the host cannot be displayed on the screen, a shaded box character is used as a substitute.***

If you are using a Korean character set, a right arrow character is used as a substitute.

Baud

This parameter determines the bit rate of the port. Allowable values include: `110` `300` `600` `1200` `2400` `4800` `9600` `14.4`kbps `19.2`kbps `38.4`kbps `57.6`kbps `115.2`kbps `128.0`kbps or `256.0`kbps.

Data Bits

This parameter determines the number of bits for the data going through this port. Possible values are: `6, 7, 8`.

Parity

This parameter determines the type of parity checking used on the data going through the port. The options are: `none`, `odd`, `even`, `mark` and `space`.

Stop Bits

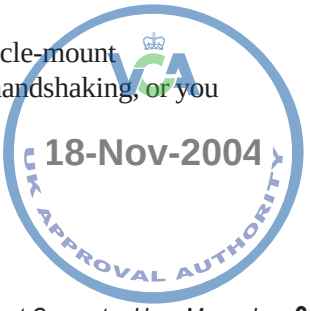
This parameter specifies the number of stop bits – `1, 1.5, 2` – used for asynchronous communication.

Flow Control

This parameter selects the type of flow control used in your vehicle-mount computer. The 8525 can perform `Software` or `Hardware` handshaking, or you can choose `Both` to enable both of these options.

The function of each mode is as follows:

Enable: Used to input and output data.



Supports XON/XOFF or no handshaking.

Print: Used to output data only. All input characters ***except*** XON and XOFF are ignored.
Supports XON/XOFF or no handshaking.

Output: Used to output data only. All input characters are ignored.
Supports no handshaking.

Note: *To enable the input and/or output, 'serial in' and/or 'serial out' must be enabled in the TESS menu.*

Buffer

The value assigned to this parameter determines the size of the serial buffer used by the application for both input and output. The buffer controls the amount of data the application can send *to* or receive *from* a serial device.

Retries

This parameter determines the number of times the 8525 attempts to transmit a byte from the serial port. If the count specified in this parameter is exceeded, the transmission fails.

Input Tmo

This parameter sets the time in tenths of a second that the 8525 waits before passing received data to the TESS or ANSI tasks.

Output Tmo

The value assigned at this parameter determines the maximum number of milliseconds that the application will wait for a 'write' sent to the port to succeed before it is aborted. The 'write' may be one or several bytes in length.

Test

When this parameter is enabled (set to "Y"), data is output through the serial port to make certain that it is operating appropriately.

6.21.3 Tether And Console Port Scan-See Parameters

When ‘Scan-See’ is specified as the peripheral for either the Tether or the Console port, the parameters listed under the “Scan-See” sub-menu are used to tailor the operation of this type of scanner. The other parameters listed in this menu – “Character Set”, “Baud” and so on – are identical to those described beginning on page 217.

```
05 Scan See
Character Set »
Baud          9600
Data Bits     8
Parity        none
Stop Bits     1
Retries       3
Input Tmo     2
Scan-See      »
```

6.21.3.1 Scan-See Sub-Menu – Mapping The Viewport

05 Scan-See		Range
Anchor Line	1	0...1
Anchor Column	19	0...19
Follow Cursor	Y	Y/N
Line Offset	0	-25...25
Column Offset	0	-80...80
Wraparound	N	Y/N
Panning	Y	Y/N
Line Scrolling	N	Y/N
Brightness	3	0 to 5
Arrows	Bright	Bright Horz Vert
Version	2	0...2

The Scan-See display is mapped to a specific area on the 8525 screen – called the *viewport* – and is continuously updated to reflect that portion of the screen. The Scan-See viewport is defined as follows:

Anchor Line/Anchor Column

A location on the Scan-See display – the *anchor* – is chosen as a reference point.

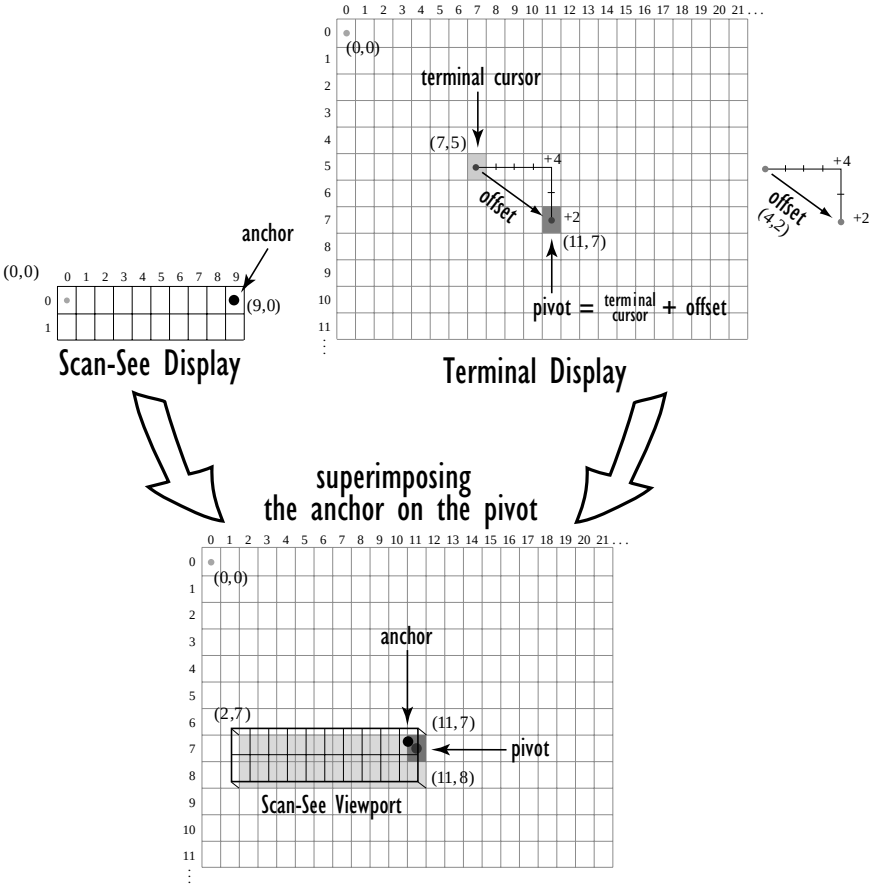
Line Offset/Column Offset

A predefined displacement – the *offset* – is added to the location of the 8525 cursor to create a point – the *pivot*. This pivot is mapped to the *anchor*, and whatever is displayed in its vicinity is also displayed on the Scan-See.

For example:

- the *anchor* is chosen as **(9,0)** whereas "**9**" is the column and "**0**" is the line (on the Scan-See display)
- the *offset* is chosen as **(4,2)**
- the cursor on the 8525 is currently located at **(7,5)**
- the *pivot* would thus be located at **(7+4, 5+2)** or **(11,7)**
- and so the area displayed on the Scan-See will be: **(11–9,7–0)** to **(11–9+9,7–0+1)** or **(2,7)** to **(11,8).** [1]

[1] These computations assume that "Wraparound" (described on page 224) is disabled (set to "N") and that "Follow Cursor" (described on page 224) is enabled (set to "Y").



Note: *To enter negative values, press the "-" (minus) key and then, type the number you want to use.*

The <LEFT> arrow key can also be used to decrement the value assigned to the parameter. Each time the <LEFT> arrow is pressed, the number is decremented by one. For example, to enter a value of "–5", start from zero and press the left arrow key five times.

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Follow Cursor

When the "Follow Cursor" parameter is disabled (set to "N"), the cursor is always assumed to be located at the origin. Using the previous example:

- the area displayed will be **(4–9,2–0)** to **(4–9+9, 2–0+1)**, or, after clipping values that are negative or higher than 80: **(0,2)** to **(4,3)**.

Wraparound

When "Wraparound" is enabled (set to "Y"), the Scan-See display is treated as a one-line by 20 column display, rather than 2 lines by 10 columns.

Panning

If "Panning" is disabled (set to "N"), the Scan-See viewport does not move when the cursor moves one position to the right, and the *pivot* is still inside the Scan-See display. However, the Scan-See display is updated to reflect the changes within that viewport. If the *pivot* goes outside the viewport, or if the 8525 display changes without the cursor being moved, the viewport is re-synchronized to coincide the *pivot* with the *anchor.*

Line Scrolling

When "Line Scrolling" is enabled (set to "Y"), the Scan-See display is treated as two separate one line by 10 column displays. The top line always displays the previous value of the bottom line. In an application where the cursor skips from one entry field to another, the field that the cursor just entered is displayed on the top line, and the next field is displayed at the bottom.

Note: *When this feature is enabled (set to "Y"), the "Panning" option should be disabled to prevent updates to both lines after every keystroke*

Brightness

The "Brightness" parameter controls the backlight brightness of the display. It only has an effect on Model 7000 Scan-Sees – scanners equipped with LED (light emitting diode) displays.

Arrows

The "Arrows" parameter assigns one of three possible functions to the two arrow keys on the Scan-See keyboard:

Value	Function
"Bright"	Arrow keys control Scan-See display brightness
"Horiz"	Arrow keys control "Column Offset"
"Vert"	Arrow keys control "Line Offset"

Table 6.5 "Arrow" Parameter Options

Note: *For "Horiz" and "Vert," changing the offset will take affect only after the* 8525 *display has been updated.*

Version

Scan-See units with serial numbers that read 1594120224 or higher contain firmware that implements a different communication protocol with the 8525 than older units. The "Version" numbers represent the following unit versions:

Value	Scan-See Version
0	• First LED version – up to serial number 1594080275; these are encased in grey plastic.
1	• Model 7000 LED units – versions after the serial number above; these are also encased in grey plastic.
2	• Metrologic 7000M LCD units; these are encased in grey plastic. • Psion Teklogix 7000M LCD units; these are encased in black plastic.

Table 6.6 Scan-See Versions

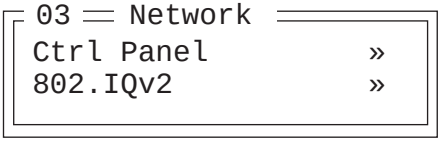
Note: *To interface the* 8525 *to the Scan-See units with older firmware (serial number lower than 1594120224), set "Parity = space"; all other parameters are identical to the newer firmware.*

6.21.3.2 Scan-See Keyboard Mapping

- **Digits (0-9)** are passed verbatim
- The **CLR** key forces a sign-on message and display refresh. This only occurs when CLR is pressed and the CLR key on the display is pressed, then released.
- The three **F-keys** are mapped to F1, F2 and F3, respectively.
- The **ENT** key is mapped to the carriage-return (‘\r’) character.
- The two arrow keys are handled locally, and control the brightness, and the line and column offsets, as described on page 224.
- Bar-code data is stripped off any identifying headers (symbology, etc.) and passed verbatim.

The Scan-See is capable of displaying only a subset of the default PC-8 ASCII character set. Any characters that cannot be displayed are currently translated to ‘.’.

6.22 Network



6.22.1 Network Ctrl Panel Settings

This option displays a Windows CE .NET screen where you can set up your radio, launch an existing network connection or create a new connection.

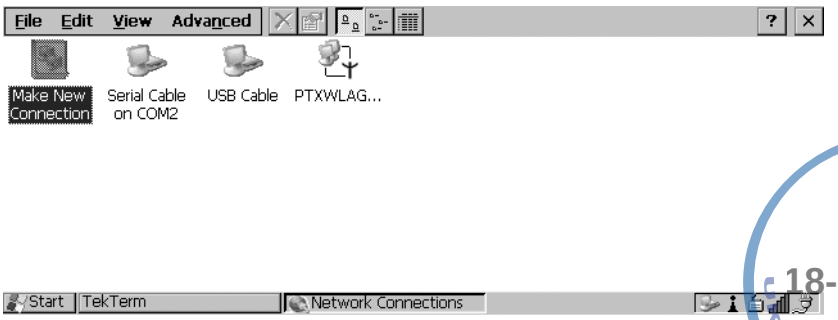


Figure 6.12 Network Settings

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Important: ***Follow the steps outlined in "Configuring An IEEE 802.11 Radio Installed In The 8525" on page 15 for details about configuring your radio.***

6.22.2 802.IQ v2

Important: ***For setup information about 802.IQ v2, refer to the "9400 and 9450 Network Controllers User Manual" and/or the "9150 Wireless Gateway User Manual".***

04 = 802.IQ v2		Range
Port	8888	see text
More Parameters	»	see text

Port

"Port" specifies the UDP port used by 802IQ v2. The default value is 8888. Keep in mind that the value assigned here must match the value set at the network controller.

Note: *When using 802.IQ v2, make certain that the* 8525 *"Net Mask" matches the network controller net mask.*

More Parameters

Important: ***The 802.IQ radio items listed in this menu are only available to Psion Teklogix personnel.***

05 = 802.IQ v2 Parameters		Range
Auto Radio Addr	Y	Y/N
Radio Address	0	1 to 3840
Initial RTT	100	500...5000

Auto Radio Addr

If this parameter is set to "Y", the 8525 requests an automatically assigned radio address.

Note: *If 'Auto Radio Addr' is enabled (set to "Y"), any value assigned to the 'Radio Address' parameter is ignored.*

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Radio Address

Important: ***"Radio Address" only takes effect when "Cellular" is enabled (set to "Y").***

The value entered in the "Radio address" parameter is used to identify the 8525 vehicle-mount over the radio link. A unique value from `1` to `3840` must be assigned for each 8525.

Initial RTT (Round Trip Time)

Round trip time is the elapsed time between an 8525 *vehicle-mount computer transmission* and an *access point acknowledgement*. Each 8525 continuously adjusts the acceptable round trip time, calculating the average elapsed time over a number of transmissions. If an acknowledgement takes longer to receive than the average round trip time calculated, the 8525 will send the transmission again.

Because 8525s cannot calculate an *average* round trip time without a number of transmissions, a starting point or "Initial Round Trip Time" is required. The 8525 uses the time assigned to the "Initial RTT" parameter as a starting value for round trip calculations. Once the 8525 begins transmitting and receiving data, this value will be adjusted to reflect the actual average round trip time between transmissions and acknowledgements.

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7 Peripheral Devices & Accessories

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7.1 External Bar Code Readers

7.1.1 PowerScan™ Standard, LR and XLR Bar Code Scanners

The 8525 supports Psion Teklogix' PowerScan™ industrial bar code scanner with standard, long range and extra long range options.

To connect this scanner to the 8525, attach the device to the tether port. Before using the bar code reader, you may need to change some parameters. For details, review "Scanner Properties Setup" on page 114 and "Bar Codes" on page 117.

7.1.2 Entering Data With The Bar Code Reader

Note: *For helpful scanning tips, refer to "Scanning Techniques" on page 38.*

When a label is scanned successfully, the 8525 will beep if configured appropriately and the scan LED will flash. Occasionally, the bar code labels are poorly printed or damaged and cannot be read properly. In this case, use the keyboard to enter data from the label.

7.2 Bluetooth Peripherals

If the 8525 is equipped with a Bluetooth radio, it is possible to communicate with a variety of Bluetooth peripherals, including GSM/GPRS handsets, scanners, printers, and so on. The range of the Bluetooth radio in the 8525 is limited to between 2 and 5 meters.

Psion Teklogix provides built-in support for the Bluetooth peripherals listed below.

- GSM/GPRS tri-band universal handset
- Bluetooth printer

Keep in mind that Bluetooth and IEEE 802.11b radios both operate in the 2.4GHz band. Although the 8525 includes features to minimize interference, performance of the system will not be optimal if you use both radios simultaneously. Typically, when both radios operate in the 8525 at the same time, they cannot transmit simultaneously – this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11b network, Psion Teklogix recommends using Bluetooth peripherals that have low transaction rates (such as printers and scanners).

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Bluetooth peripherals are configured using the Bluetooth control panel applet. Refer to “Bluetooth Setup” on page 98 for information about setting up your Bluetooth devices for communication. In addition, review the manual shipped with your Bluetooth device to determine the method used to associate with the 8525 host.

7.3 GPS Unit

The 8525 can support an optional GPS unit. This unit, a Garmin GPS 35HVS (TLX PN 30969), is a complete GPS receiver and antenna contained in a small, water resistant package. The Garmin GPS 35HVS can track up to 12 satellites at a time, while providing fast time-to-first-fix and one second navigation updates.

The GPS unit was designed to be used in conjunction with the Psion Teklogix Powered Sled (Model 7937B), the Lithium Ion Battery Pack (PN 20605-003) and the Psion Teklogix Port Replicator (TLX PN 21655). The GPS unit plugs directly into the Port Replicator which supplies the GPS unit with power (from the Powered Sled supply) and connects the data lines to the 8525.

The GPS unit should be mounted with a clear, unobstructed view of the GPS satellites. For optimal performance, the GPS unit should be mounted in an area that provides exposure to as large a swath of unobstructed sky as possible – a vehicle roof is an excellent choice.

Important: ***Keep in mind that some windows have thermal and/or UV filter or tint coatings that may shield satellite signals from the GPS receiver.***

Psion Teklogix provides four types of Garmin mounting brackets to secure your GPS unit in position.

7.4 Mounting Accessories

There are two mounting options for the 8525:

- Quick-Release Mount, includes two adaptor plates, quick release and cradle mount (along with necessary hardware) – Kit PN 1008424
- Dual Ball and Socket Mount

7.4.1 8525 Mounting Recommendations

Warnings: ***Before mounting an 8525 in a vehicle, there are a number of operator safety issues that require careful attention. An improperly mounted 8525 may result in one or more of the following: operator injury, operator visibility obstruction, operator distraction and/or poor ease of egress for the operator. Psion Teklogix strongly recommends that you seek professional mounting advice from the vehicle manufacturer.***

Cable routing within a vehicle cab also requires careful consideration, especially for separately tethered scanners and other devices with loose cables. If you are unable to obtain suitable advice, contact Psion Teklogix for assistance (see "Appendix A: Support Services and Worldwide Offices" at the end of this document). Note also that for better protection, the equipment should be mounted inside the vehicle roll cage.

Use of the Powered Fork Lift Cradle while charging the fork truck battery is prohibited.

Important Safeguards

- To avoid possible injury, this device must be properly secured when in a moving vehicle.
- Keep this device away from magnetic fields.
- Do not place the computer near a television or radio receiver.
- Do not disassemble your 8525 computer—there are no user-serviceable parts inside.

7.4.2 Installing The Cradle And Cradle Mounting Plate

Mounting Kit PN 1008424

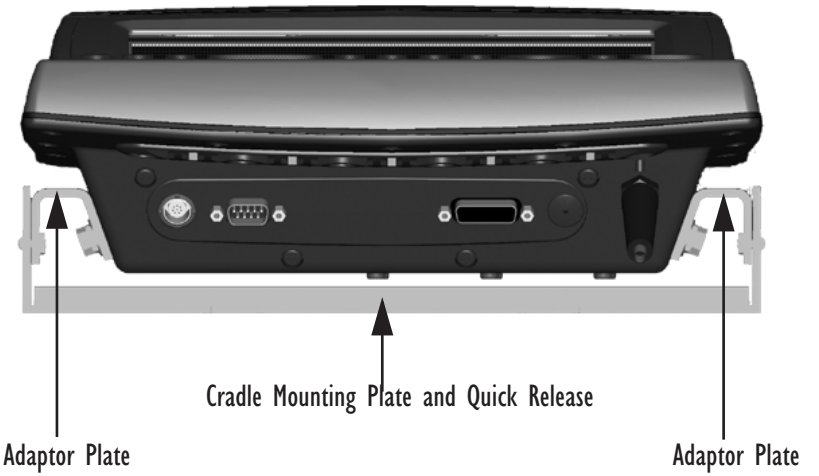

Figure 7.1 Quick Release Mount Installed

First, the 8525 must be attached to the cradle (Figure 7.2 on page 235). To do this:

- Place the terminal in the cradle so that the display side of the terminal is on the same side as the quick release fasteners. The keyboard side of the terminal should be on the same side as the tabs.

- Match the side screw holes on the 8525 with the appropriate pairs of holes on the cradle and screw them together. The choice of holes determines the angle at which the terminal tilts.

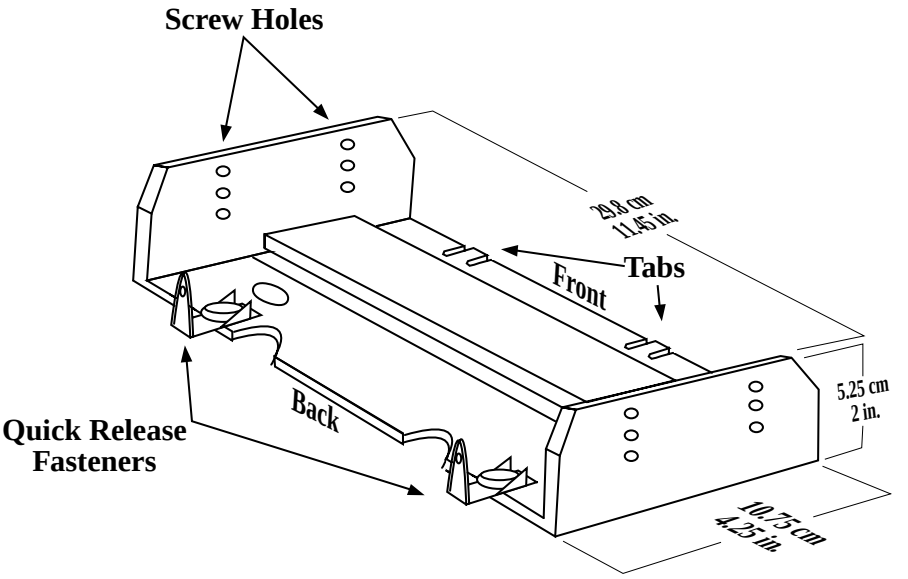

Figure 7.2 Mounting Cradle And Quick Release

Installing The Cradle Mounting Plate

Next, the cradle mounting plate must be attached to the vehicle. The cradle mounting plate shown in Figure 7.3 holds the 8525 and cradle in place.

- Screw the cradle mounting plate onto the vehicle using the four 1/4" holes.

Note: *The bolts used for all installations are SAE 1/4-20.*

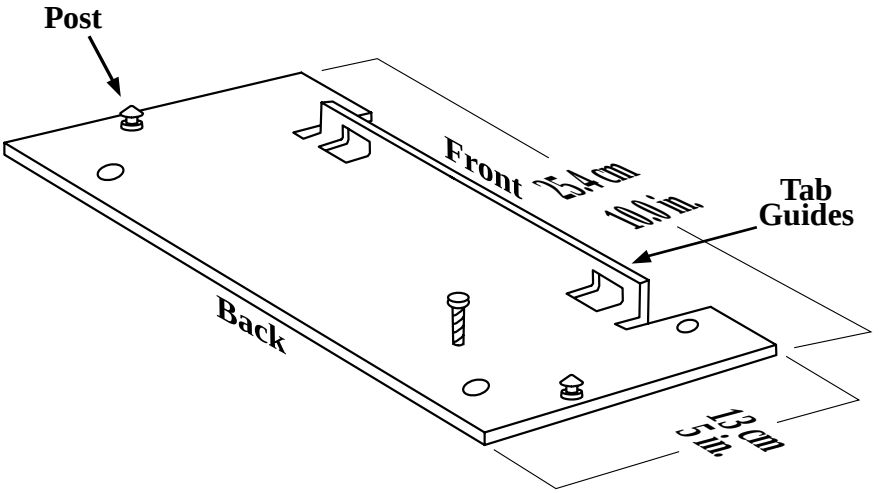

Figure 7.3 The Cradle Mounting Plate

Attaching The Cradle To The Cradle Mounting Plate

Next, the 8525 and cradle must be attached to the cradle mounting plate.

- Align the tabs on the front of the cradle to the tab guides on the mounting plate and push the cradle back and down.
- Slide the fasteners on the back of the cradle until they snap to the posts on the mounting plate.

Warning: ***Never operate the vehicle if the quick release fasteners are not locked.***

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7.4.3 Installing The Dual Ball And Socket Mount

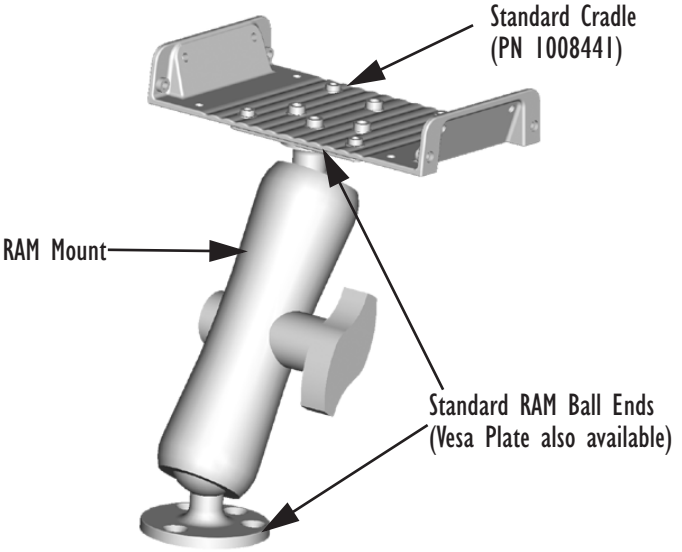

Figure 7.4 Dual Ball And Socket Mount

With the standard RAM ball end or vesa plate(s) installed on the RAM mount:

- Attach the RAM mount to a standard cradle (PN 1008441) using the hardware included with your kit.
- Attach the other end of the mount to almost any surface. The ball design allows both ends of the RAM mount to be angled to suit the operator's needs.

7.4.4 Wiring Guidelines

Before installing the cables between the computer and other devices, consider the following:

- Ensure the vehicle body and underlying wiring is not damaged while drilling mounting holes.
- Protect cable runs from pinching, overheating and physical damage.
- Use grommets to protect cables that pass through metal.
- Use plastic straps and tie-downs to secure cables and connectors in their desired location, away from areas where they may get snagged or pulled.

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- Keep the cables away from heat sources, grease, battery acid, and other potential hazards.
- Keep the cables away from control pedals and other moving parts that may pull on the cables or interfere with the operation of the vehicle.
- Leave enough slack on the cables so that the computer can be removed easily for maintenance.

Note: *Make sure the cables run inside the roll cage of the vehicle.*

7.4.5 8525 Installation in High Voltage Vehicles:

Warning: ***Voltages exceeding 60VDC are considered hazardous. For 8525 installations on vehicles with batteries above this voltage, ensure the 8525 power connector is mounted in a secure location out of the vehicle operator's reach.***

Due to the hazardous voltages present on these vehicles, it is necessary to ensure that the unit's power supply cable connector is not accessible to the vehicle operator, and is not exposed to water or other liquids. To accomplish this:

- Ensure the power connector is installed in a dry location on the vehicle, away from the vehicle operator's reach (perhaps under a vehicle dash or in a sealed housing).
- Cover the power connector with a waterproof heat shrink material.
- Wrap the connector securely with a waterproof electrical tape in an area out of the vehicle operators reach.

All other installation requirements outlined in this document should also be followed for High Voltage vehicles to insure safe installation and operation of the 8525 vehicle-mount.

7.4.6 8525 Installation In Vehicles

Note: *The metal chassis of the 8525 is equipped with a ground lug (located on the underside of the 8525, beside the cable management bar) to provide an additional ground to the vehicle, if desired. The grounding strap must connect from the ground stud on the 8525 to a solid, reliable contact point on the main portion of the vehicle chassis. It must not be connected to battery negative or a terminal block.*

As with other vehicle cables, the routing of the ground strap should be carefully considered to ensure it does not pose a hazard to the operator or the safe operation of the vehicle. If necessary, secure the ground strap with cable ties or some other mechanical means to prevent loops or loose lengths of wire that could catch on stationary items when the vehicle is in motion.

7.4.7 Wiring Vehicle Power To The 8525

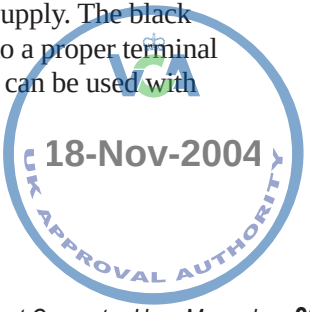
Warning: ***The 8525 accepts DC power sources between 10V and 90VDC nom.***

Applying a voltage above 90VDC or reversing polarity may result in permanent damage to the 8525 and will void the product warranty.

A 1.8 meter (6 ft.) extension power cable (P/N 13985-002 std or –001 display off) is supplied with your 8525.This cable should be wired to a filtered, fused (maximum 10A) accessory supply on the vehicle. The 8525 draws no more than 8A (less if the accessory supply is greater than 12V). Any additional wiring (minimum 18 gauge), connectors or disconnects used should be rated for at least 90 VDC, 10A.

When connecting P/N 13985-001 (display-off version), ensure that the screen blanking wires (clearly labelled) and the power wires (red/black leads) are reliably secured away from each other, or are separated with reliably secured certified insulation. Minimum 2.8mm distance, or 0.4mm distance through insulation is required for the separation.

The red lead of the power cable attaches to the positive vehicle supply. The black lead connects to the negative supply – this should be connected to a proper terminal block and not to the vehicle body. The 8525 is fully isolated and can be used with both negative and positive chassis vehicles.



You may have the option of connecting power before or after the 'key' switch. It is preferable to wire the 8525 after the key switch – that is, the 8525 cannot be switched on without turning the vehicle key on. However, if the operator switches the key off repeatedly for long periods during a shift, it may make more sense to wire the 8525 before the switch.

Keep in mind that the 8525 will continue to operate with or without vehicle power as long as its back up battery has sufficient charge.

If an unfused power source must be used, a fuse assembly (PN 19440) must be added to the extension power cable (the fuse and instructions are supplied with the cable). Use only a 10A slow blow UL approved fuse in the fuse assembly. The fuse assembly must be located as close as practical to the DC supply, and shall connect to the positive side of the DC supply.

SPECIFICATIONS 8

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Note: *Performance specifications are nominal and subject to change without notice.*

8.1 8525 Vehicle-Mount Computer Specifications

Size

- 298mm W x 117mm H x 292mm L (11" W x 4 5/8" H x 11" L)

Weight

4.3 kg (9.5 lbs)

Operating System

Windows CE .NET 4.2

Processor And Memory

- 400MHz ARM RISC (400 MIPS).
- 32KB instruction/32KB data cache
- on-board RAM: 128mByte SDRAM
- on-board ROM: 64 MByte FLASH.

Power

- Internal power supply 10-90VDC designed for forklift power
- 12.6V Li-Ion standard battery for brown-out
- Advance Smart Battery
- Built-in fast charger
- 1 week real-time clock backup

Communication Ports

- One Tether port with:
  - one RS232 serial port (decoded scanner, printer)
  - undecoded scanner port
  - USB host port
- One Port with:
  - DB9 plug RS232
- One Port with: High density socket
  - one RS232 serial comm. port
  - 1 USB device port
  - 2 USB host ports

Environmental

Standard Temperature Unit

Temperature Range	-20˚ C to 60˚ C (-4˚ F to 140˚ F)
Storage Temperature	-35˚ C to 70˚ C (-31˚ F to 158˚ F)
Rain And Dust Resistance	IEC 529, classification IP66.
Humidity	5% - 95% RH non-condensing
3 axis Vibration	1.5g RMS PSD (4 - 500 Hz)
3 axis Shock	30g 11ms saw tooth.

Freezer Unit

Temperature Range	-30˚ C to 60˚ C (-22˚ F to 140˚ F)
Storage Temperature	-35˚ C to 70˚ C (-31˚ F to 158˚ F)
Rain And Dust Resistance	IEC 529, classification IP66.
Humidity	5% - 95% RH non-condensing
3 axis Vibration	1.5g RMS PSD (4 - 500 Hz)
3 axis Shock	30g 11ms saw tooth.

Approvals

Safety	UL 1950, CSA C22.2 No950, LVD EN60950
EMC	FCC Part 15 Class B, EMC Directive Class B

8.2 Radio Specifications

802.11b Direct Sequence Spread Spectrum

Compact Flash form factor

Transmit Power	32 mW
Frequency Range	2.400-2.4835
Channels	1 to 13
Range	50-115m
Rx Sensitivity	-93dBm @ 1Mbps
Data Rates	1,2,5.5 and 11 Mbps auto fallback

802.11g Direct Sequence Spread Spectrum *(for future release)*

Compact Flash form factor

Transmit Power	32mW max
Frequency Range	2.400-2.4835
Channels	1 to 13
Range	30-115m
RX Sensitivity	-86dBm @ 6Mbps
Data Rates	54,48,36,34,18,12,9,6Mbps auto fallback

802.11a Direct Sequence Spread Spectrum *(for future release)*

Compact Flash or PC Card form factor

Transmit Power	40mW max
Frequency Range	5.15-5.35GHz, 5.47-5.85GHz
Channels	1 to 20
Range	50-115m
Rx Sensitivity	-87dBm @ 6Mbps
Data Rates	54, 48, 36, 24, 18, 1,2 9 and 6 Mbps auto fallback

RA1001 - Narrow Band Radio

Psion Teklogix Proprietary Narrowband Modulation (2/4 level FSK)

Type III PC Card Form Factor

Transmit Power	1W or 0.5W
Frequency Range	403-422 MHz, 419-435 MHz, 435-451 MHz, 450-470 MHz, 464-480 MHz, 480-496 MHz, 496-512 MHz
Rx Sensitivity	< -110 dBm @ 19.2 kbps (4 level FSK)
Data Rates	4800 bps, 9600 bps, 19.2 kbps

Bluetooth Radio

SDI/O form factor

Transmit Power	0dBm max, -9dBm min
Frequency Range	2.400-2.4835
RX Sensitivity	-72dBm typ, -75dBm max
Data Rate	784Kbps

8.3 Bar Code Scanning

Scanner Types	Decoded and non-decoded.
Non-Decoded Codes Supported	Code 39, code 128, EAN 13, EAN 8, EAN 128, UPC-A, UPC-E, Codabar, Code 93, Code 11, Interleaved 2-of-5, MSI/PLESSY, Discrete 2-of-5.
Decoded Codes Supported	Dependent on external scanner choice.
Code Discrimination	Automatic for all selected codes, Non-Decoded input. Decoded input is external scanner dependent.

8.3.1 External Scanners

Supported Types	Decoded and Non-Decoded 5V only.
Interface	Via tether port.

8.4 External Scanner Specifications

8.4.1 PowerScan™ LR and XLR Industrial Scanner Specs

Communication

Undecoded	Standard and Intermec-compatible.

Mechanical

Dimensions	6.9 x 11.2 x 18.3 cm (2.7 x 4.4 x 7.2 in)
Weight	Scanner - 280 g (9.9 ozs) Cable (82.3 cm 32 in) - 176 g (6.2 ozs)
Cable lengths	Collapsed: 81 cm (32 in) Max working: 183 cm (72 in)

Electrical

Operating voltage	4 VDC to 14 VDC
Operating current - nominal	Undecoded: 75 mA @ 5 VDC Decoded: 100 mA @ 5 VDC
Idling current - low power mode	< 50 µA @ 5 VDC

Optical

Light source	Extra bright 650 nm Visible Laser Diode (VLD)
Scan System	Frictionless lifetime flexure mechanism
Rate	35 scans/sec nominal
Depth of field - Long Range	**Paper Labels (decoded)** 7.5 mil 6 to 10 in (15 to 25 cm) 10 mil 5 to 20 in (13 to 51 cm) 15 mil 5 to 32 in (13 to 81 cm) 20 mil 5 to 48 in (15 to 122 cm) 40 mil 8 to 85 in (20 to 216 cm) 55 mil 15 to 108 in (38 to 274 cm) **Reflective Labels (decoded)** 40 mil 22 to 100 in (56 to 254 cm) 55 mil 30 to 104 in (76 to 366 cm) 70 mil 40 to 180 in (102 to 457 cm)

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	100 mil 45 to 264 in (114 to 671 cm)
Depth of Field-Extra Long Range	**Paper Labels (decoded)** 15 mil 28 to 60 in (71 to 152 cm) 20 mil 28 to 72 in (71 to 182 cm) 40 mil 28 to 144 in (71 to 144 cm) 55 mil 40 to 180 in (102 to 457) **Reflective Labels (decoded)** 40 mil 40 to 180 in (102 to 457 cm) 70 mil 80 to 300 in (2032 to 762 cm) 100 mil 80 to 432 in (203 to 1097 cm)
Print Contrast Ratio	25% minimum
Pitch	± 65˚
Skew	± 55˚
Ambient Light Immunity	Artificial light: 1200 ft. candles. Sunlight: 8000 ft. candles.

Environmental

Temperature Rating	Operating: -22˚ to 122˚ F (-30˚ to 50˚ C) Storage: -40˚ to 158˚ F (-40˚ to 70˚ C)
Humidity	5 to 95% NC
Shock (at 23˚ C)	Withstands multiple 6 foot drops to concrete.
Vibration	Meets MIL-STD-810E
Water and Dust	IEC529 rating IP54DW

Decoding Capabilities

Auto-discriminates between:	UPC A, E/EAN8, 13/JAN8, 13 (P2/P5, Code 128 EAN add-ons) Code 128, MSI/Plessey, Code 39, Interleaved 2 of 5, Code 39 Full Ascii, Standard 2 of 5, Code 93, Codabar,

Safety/Regulatory

Electrical	Complies to: Gost R; TUV; UL; cUL
Emissions	Complies to: FCC-A;EN55022-B

	BCIQCNS13438; AS/NZS3548; VCCI-B
Laser Classification	CDRH Class 2;IEC60825 Class 2

8.4.2 PowerScan™ Standard Range Scanner Specs

Communication

Undecoded	Standard and Intermec-compatible.

Mechanical

Dimensions	6.9 x 11.2 x 18.3 cm (2.7 x 4.4 x 7.2 in)
Weight	Scanner - 280 g (9.9 ozs) Cable (82.3 cm 32 in) - 176 g (6.2 ozs)
Cable lengths	Collapsed: 81 cm (32 in) Max working: 183 cm (72 in)

Optical

Light source		Extra bright 650 nm Visible Laser Diode (VLD)			
Scan System		Frictionless lifetime flexure mechanism			
Rate		35 scans/sec nominal			
Depth of field - Standard		**Paper Labels (decoded)**			
		7.5 mil	3.0	to 6 in	(9 to 15 cm)
		10 mil	1.5	to 15 in	(4 to 38 cm)
		15 mil	1.0	to 25 in	(2.5 to 64 cm)
		20 mil	1.0	to 35 in	(2.5 to 89 cm)
	(paper)	55 mil	6.0	to 60 in	(15 to 152 cm)
		High Density (decoded)			
		3 mil	1.0	to 2 in	(2.5 to 5.1 cm)
		4 mil	1.0	to 3 in	(2.5 to 8 cm)
		5 mil	0.8	to 3.8 in	(2 to 10 cm)
		7.5 mil	0.6	to 4.5 in	(1.5 to 11 cm)
		10 mil	0.2	to 5.5 in	(0.5 to 14 cm)
Print Contrast Ratio		25% minimum			
Pitch		± 65˚			
Skew		± 55˚			

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Ambient Light Immunity	Artificial light: 1200 ft. candles. Sunlight: 8000 ft. candles.

Electrical

Operating voltage	4 VDC to 14 VDC
Operating current - nominal	Undecoded: 75 mA @ 5 VDC Decoded: 100 mA @ 5 VDC
Idling current - low power mode	< 50 µA @ 5 VDC

Environmental

Temperature Rating	Operating: -22˚ to 122˚ F (-30˚ to 50˚ C) Storage: -40˚ to 158˚ F (-40˚ to 70˚ C)
Humidity	5 to 95% NC
Shock (at 23˚ C)	Withstands multiple 6 foot drops to concrete.
Vibration	Meets MIL-STD-810E
Water and Dust	IEC529 rating IP54DW

Decoding Capabilities

Auto-discriminates between:	UPC A, E/EAN8, 13/JAN8, 13 (P2/P5, Code 128 EAN add-ons) Code 128, MSI/Plessey, Code 39, Interleaved 2 of 5, Code 39 Full Ascii, Standard 2 of 5, Code 93, Codabar,

Safety/Regulatory

Electrical	Complies to: Gost R; TUV; UL; cUL
Emissions	Complies to: FCC-A;EN55022-B BCIQCNS13438; AS/NZS3548; VCCI-B
Laser Classification	CDRH Class 2;IEC60825 Class 2

8.5 Internal Lithium-Ion Battery

Not user accessible.

Technology	12.6V Lithium-Ion (Li-Ion) backup battery

APPENDIX A

SUPPORT SERVICES AND WORLDWIDE OFFICES

Psion Teklogix provides a complete range of product support services to its customers worldwide. These services include technical support and product repairs.

A.1 Technical Support

Technical Support for Mobile Computing Products is provided via e-mail through the Psion Teklogix customer and partner extranets. To reach the website, go to *www.psionteklogix.com* and click on the appropriate Teknet link on the home page. Then click on the "Log-in" button or the "Register" button, depending on whether you have previously registered for Teknet. Once you have logged in, search for the "Support Request Form".

A.2 Product Repairs

International

For technical support outside of Canada or the U.S.A., please contact your local Psion Teklogix office listed on our worldwide website:

http://www.psionteklogix.com

Click on the heading labelled 'Contacts' to choose a Psion Teklogix technical support representative closest to you.

Canada/U.S.A

Canadian and U.S. customers can receive access to repair services, by calling the toll-free number below, or via our secure website (see *Technical Support*, above).

Note: *Customers calling the toll-free number should have their Psion Teklogix customer number or trouble ticket number available.*

Voice: 1 800 387-8898 (press option '2')

Fax: 1 905 812-6304

A.3 Worldwide Offices

Company Headquarters And Canadian Service Centre

Psion Teklogix Inc.
2100 Meadowvale Boulevard
Mississauga
Ontario
Canada L5N 7J9

Tel: +1 905 813 9900
Fax: +1 905 812 6300

Email: salescdn@psion.com

North American Headquarters And U.S. Service Centre

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Erlanger, Kentucky
USA 41018

Tel: +1 859 371 6006
Fax: +1 859 371 6422

Email: salesusa@psion.com

International Subsidiaries (see also *www.psionteklogix.com*)

Psion Teklogix S.A.
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BP 421000
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Tel: +33 4 42 90 88 09
Fax: +33 4 42 90 88 88

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APPENDIX B

PORT PINOUTS

B.1 Tether Port Pinout

The tether port connector incorporates multiplexed undecoded scanner, decoded scanner, RS232 serial, and USB interfaces. In order for it to operate, a special wiring scheme is needed. If you need to create cables for the tether port, contact Psion Teklogix and request an instruction sheet for tether port termination.

Important: ***Do not attempt to interface with the tether connector without direction from a qualified Psion Teklogix technician. Doing so may cause damage to the 8525 and/or the tethered device.***

B.2 RS232 Port Pinout

Pin No.	Description
1	DCD (Data Carrier Detect)
2	RXD (Receive Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	GND (Signal Ground)
6	DSR (Data Set Ready)
7	RTS (Ready To Send)
8	CTS (Clear to Send)
* 9	5V POWER *

*** CAUTION**: If enabled (software configurable), 5V power will appear on this line, which may be the Ring Indicator line on some devices such as modems. 1/2 Amp Max.

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B.3 DB-26 Auxiliary Port Pinout

Pin No.	Signal And Description
1	EXT_5V_SW – Configurable 5V power for External devices (such as USB). 1/2 Amp max.
2	EXT_5V_SW – Same as above.
3	MIC_IN – Microphone input.
4	MIC_GND – Microphone signal ground.
5	Speaker + (positive).
6	Speaker - (negative).
7	GND - Signal Ground
8	USB_HOST_PORT_4_PLUS - for connecting external devices such as keyboards, mice, printers.
9	USB_HOST_PORT_4_PLUS - for connecting external devices such as keyboards, mice, printers.
10	GND - Signal Ground.
11	USB_DEVICE_PLUS – For connections to USB Hosts such as computers.
12	USB_DEVICE_NEGATIVE – For connections to USB Hosts such as computers.
13	GND - Signal Ground.
14	USB_HOST_PORT_3_PLUS – For connecting external devices such as keyboards, mice, printers.
15	USB_HOST_PORT_3_NEGATIVE – For connecting external devices such as keyboards, mice, printers.
16	GND – Signal Ground
17	CONSOLE_RXD – Console Port (RS-232) Receive Data ** Internal use only.
18	CONSOLE_TXD – Console Port (RS-232) Transmit Data ** Internal use only.
19	GND – Signal Ground

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Pin No.	Signal And Description
20	CONSOLE_TXD_SEL – Transmit data Select - selects whether the PCON or PXA-255 (CPU) is sending data out the CONSOLE_TXD pin. **Internal use only.
21	MOTION DETECT – Alternate input- blanks the screen for the period that this pin is grounded -(usually implemented via extra wires in the Unit input Power cable.
22	AUXILIARY_ID – External device Identity Input Pin.
23	NO CONNECT.
24	PCON_PROGRAM – Input – used to program Peripheral Controller **Internal use only.
25	NO CONNECT.
26	NO CONNECT.

APPENDIX C

USB SETUP APPLICATION

C.1 USB Setup

The USB Setup application (PN 1000997) is used to update a Windows PC so that it can connect to a Psion Teklogix 8525.

System Requirements

- Windows® 2000 or XP
- ActiveSync 3.1 or later

The two driver classes that control USB communication are `usbstor` (for communication with a device running `BooSt`) and `wceusbsh` (for communication through ActiveSync with a device running Windows CE .NET). These drivers must be updated with 8525-specific information so that the 8525 can be recognized by your PC.

The install program:

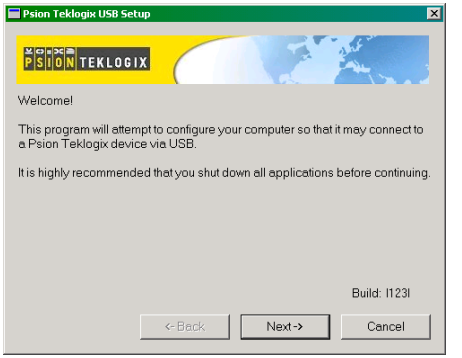
- updates copies of the device installation scripts `usbstor.inf` and `wceusbsh.inf` with Psion Teklogix-specific information,
- sets up a USB connection between the PC and the 8525, *and*
- installs the 8525 as a device on your PC. This may require notifying the PC OS that the device should be reinstalled and then reconnecting the USB device.

C.1.1 Launching The Application

The log file is initialized and the program introduction is written to it.

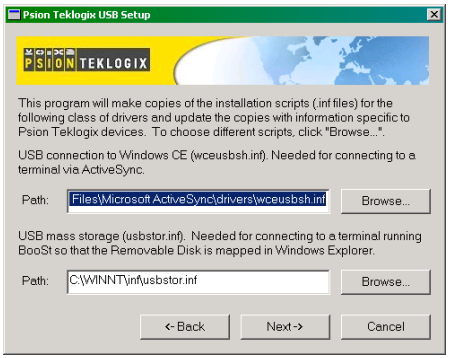
C.1.2 Pre-Installation: Updating usbstor.inf And wceusbsh.inf

1. Welcome Dialogue Box:
   You can click on the <Back> and <Next> buttons to navigate between the pre-install windows. At any time during the pre-installation process, you can tap on <Cancel> to exit the program.


Psion Teklogix USB Setup
PSION TEKLOGIX
Welcome!
This program will attempt to configure your computer so that it may connect to a Psion Teklogix device via USB.
It is highly recommended that you shut down all applications before continuing.
Build: I123I
<- Back
Next ->
Cancel

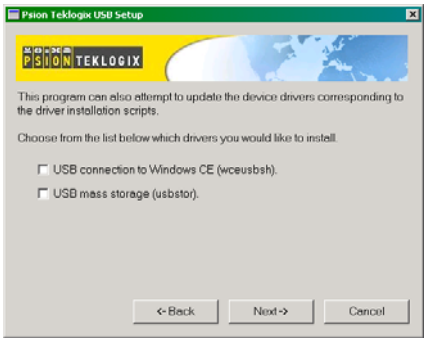
- Shut down all other software programs – especially ActiveSync – to avoid a restart request during installation.
- Tap on the <Next> button.
  The program checks that ActiveSync is installed and that it is a supported version – 3.1 or later. If the version installed on your PC is not supported, you'll need to exit the USB Setup application, and install a later version of ActiveSync.

2. Device Driver INF File Selection Dialogue Box:
   This dialogue box allows you to choose the paths of the appropriate `inf` files. Default file paths are provided in this dialogue box.


Psion Teklogix USB Setup
PSION TEKLOGIX
This program will make copies of the installation scripts (.inf files) for the following class of drivers and update the copies with information specific to Psion Teklogix devices. To choose different scripts, click "Browse...".
USB connection to Windows CE (wceusbsh.inf). Needed for connecting to a terminal via ActiveSync.
Path:
Files\Microsoft ActiveSync\drivers\wceusbsh.inf
Browse...
USB mass storage (usbstor.inf). Needed for connecting to a terminal running BooSt so that the Removable Disk is mapped in Windows Explorer.
Path:
C:\WINNT\inf\usbstor.inf
Browse...
<- Back
Next ->
Cancel

- If necessary, tap on the <Browse> buttons to select different paths for the `inf` files.

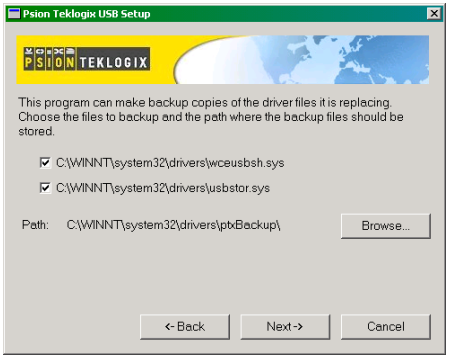
3. Device Driver Install Selection Dialogue Box:
   You can choose to have the device drivers installed immediately by selecting the check box (√), or you can leave the check box blank and Windows will install the 8525 the next time it is connected. It is recommended that the device be installed immediately.


Psion Teklogix USB Setup
PSION TEKLOGIX
This program can also attempt to update the device drivers corresponding to the driver installation scripts.
Choose from the list below which drivers you would like to install.
USB connection to Windows CE (wceusbsh).
USB mass storage (usbstor).
<- Back
Next ->
Cancel

- Select the drivers you want to update – `wceusbsh` and `usbstor`.
- Tap on the <Next> button.

Note: *None of the drivers are updated by default. To complete the process, you must establish USB connections.*

4. Device Driver Backup Selection Dialogue Box:
   The USB Setup application will attempt to back up the driver `.sys` files before attempting the installation. It specifies which files it will try to back up and the location to which it will back them up.


Psion Teklogix USB Setup
PSION TEKLOGIX
This program can make backup copies of the driver files it is replacing. Choose the files to backup and the path where the backup files should be stored.
C:\WINNT\system32\drivers\wceusbsh.sys
C:\WINNT\system32\drivers\usbstor.sys
Path: C:\WINNT\system32\drivers\ptxBackup\
Browse...
<- Back
Next ->
Cancel

Note: *Both drivers are selected for backup by default. The backup directory is <system directory>\drivers\ptxBackup.*

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C.1.3 Installation: Installing The 8525 As a Device On Your PC

1. Install Dialogue Box:
   The `.sys` files you selected are copied to the backup directory. If an unknown error occurs during the backup, you are asked whether you'd prefer to cancel the install or continue with the process. The `wceusbsh.inf` and `usbstor.inf` files are updated.

2. If you indicated that the `wceusbsh` driver should be installed, the Install dialogue box appears again. The USB Setup application will attempt to install the drivers immediately. This will succeed only if a valid USB connection to the device that is running Windows CE .NET exists.

- If the install fails due to an unknown error, the install for this particular driver is aborted.
- If the install fails because there was an inappropriate USB connection, there are two possibilities:
  - An appropriate USB connection was never established between the PC and the 8525 running Windows CE .NET. In this case, when an appropriate USB connection with this device exists, Windows will automatically attempt to install the device driver.
  - An appropriate USB connection exists between the PC and the 8525 running Windows CE .NET, but it has since been severed. Windows may or may not attempt to automatically install the device drivers on the next appropriate USB connection.
- A window is displayed where you can tap on <Cancel> to abort the `wceusbsh` driver installation and continue. It also contains instructions to boot your device into Windows CE .NET and establish a USB connection between the device and the PC. When you create the appropriate connection, Windows automatically installs the device drivers. The 'Found New Hardware' wizard may appear. Your only interaction with this window is to click on the <Finish> button.
- If this is the first appropriate connect between the device and the PC – i.e., there was no previous devnode for the device in the system – the <Continue> button is activated as soon as the connection is made. Where there was a devnode present in the system and it has been marked for reinstall, the <Continue> button will not become active until Windows has

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completed the driver installation and the device is no longer marked for reinstall. Only one devnode per device can be 'unset' when the device drivers are finally installed.

3. If you indicated that the `usbstor` driver should be installed, the same steps as described above are carried out for `usbstor` except that the 8525 must be running BooSt. (Press and hold down the <SCAN> <BLUE> <ENTER> keys for a minimum of 6 seconds to launch the BooSt program.) Keep in mind that a device running BooSt has a different hardware ID than when it is running Windows CE .NET.

C.1.4 Post Installation

1. Done Dialogue Box:
   This dialogue box indicates the success or failure of the installation.

- To view the log file, tap on the <Log File> button
- To exit the program, tap on the <Exit> button.

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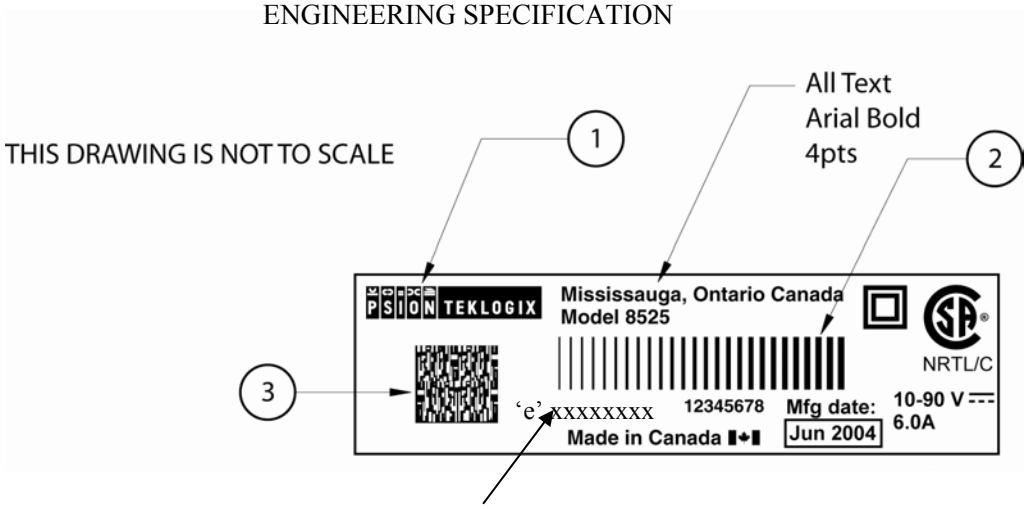
PSION TEKLOGIX

Mississauga, Ontario
Canada

Specification

DESCRIPTION: DOCUMENT MANUFACTURE LABEL 8525
ENGINEERING SPECIFICATION



VCA Approval No.

NOTES:

1. Psion Teklogix logo to be in accordance with company standards.
2. Code 128 barcode contains the product serial number.
   a) Serial number to be human readable
3. Two Dimensional Datamatrix Barcode (product specific data)
4. Artwork is black on white label stock.
5. See document 1010063 for generation of bar code data.
6. Preferred label fabrication: Ink Ribbon (Advanced Bar Code Solutions p/n Z1A060500) required for printing on Zebra 96XiIII Plus printer (minimum 600 dpi resolution required).

ITEM GROUP	**A00DOC**	**APPROVALS**		**DATE**	PSION TEKLOGIX Mississauga, Ontario
PRODUCT TYPE	**VK0**	DRAWN BY: VESNA VUKOVIC		JUL16/04	
EDR/O STATUS		CHKD. BY:	DATE: / APPROV'D. BY:		TITLE: DOC MFG LABEL SPEC 8525 ENGINEERING SPECIFICATION
OBSOLETE		PROD. ENG.:			
ENGINEERING ONLY		PROJ. ENG.:			
PRE-PILOT		MECH. ENG.:			
BETA		ELEC.ENG.:			
RELEASED		Installation Instruction U:\engdata\RELEASE\TEKLOGIX PRODUCTS\DO Blank forms\Blank Forms Word.Doc\InstallationInstruction.doc			SIZE / DRAWING NO. 1008407 / REV. B
EDR/EDO NO.:					07-Nov-2004
REL. DATE:					SHEET 1 OF 1

VCA APPROVAL AUTHORITY

8525/8530 VEHICLE MOUNT COMPUTER

MAIN LOGIC BOARD

SCHEMATIC INDEX

Page 2: PXA255 CPU

Page 3: SDRAM
NAND flash
M-SYSTEMS flash

Page 4: Address & Data bus switches

Page 5: Peripheral Microcontroller (PCON)
EEPROM
Real Time Clock
Battery Monitor
PCON Programming I/F
PCON Console

Page 6: Buffer ASIC

Page 7: ASIC Support Circuitry
CF / PCMCIA Power Swtiches

Page 8: CF Card / PCMCIA Interface

Page 9: MQ1188 - SDIO/USB Controller
MQ 1188 DC-DC Converter

Page 10: Spread Spectrum Generator

Page 11: LCD Controller

Page 12: SDIO Socket
Display Transition Board (DTB) Connector

Page 13: SMBus Battery Charger
Inrush Current Limiter

Page 14: 3V3/5V Power Supply
3V3/5V Switched Power
3V3 Standby Regulator
CPU Core Supply

Page 15 : Supercap Charger
Analog Mux Supply
5V Standby Regulator

Page 16: Tether Port
RS-232 Transceiver

Page 17: USB Hub
Port Extender Interface

Page 18: COM2 RS-232 port
Console RS-232 Port

Page 19: Battery interface
Beeper Driver
External Supply Inrush Limiter

Page 20: Internal Keyboard interface
External Keyboard interface

Page 21: Audio header
J-Tag Interface

Page 22: Heater

Special Component Detail

Related Reference Designator	BaaN P/N	Description	Qty
PCB1	1008011	PCB 8525 MAIN LOGIC BOARD	1
CON1	9003441	CONNECTOR DOUBLE SLOT CARDBUS EJECTOR REVERSE TYPE 2MM STANDOFF	1
SCR1-SCR4	9002961	SCREW M2 X 20 PAN HEAD	4
SCR5,SCR6	9001802	SCREW M2 X 8 CHEESE PHIL	2
NUT1- NUT6	95257	NUT M2 PCMCIA	6
WRS1-WSR4	9004474	M2 LOCKWASHER, STAINLESS STEEL, FLAT,INTERNAL TOOTH	4
WSR5-WSR8	9004475	WASHER,STAINLESS STEEL,M2,FLAT	4
ADH1-ADH4	94751	ADH SILICON RTV WHT RTV162	0.001
ADH5-ADH10	92075	LOCTITE	0.001
LBL1	95565	LABEL 0.25" X 0.25" WHITE	1
LBL2,LBL3	1008087	LABEL BLANK PCA 0.25"X1.0" WHITE MYLAR 0.002" THICK	2
S/W 1	1002024	SOFTWARE 8525 PCON IMAGE	1
S/W 2	1002025	SOFTWARE 8525 BOOST IMAGE	1
S/W 3	1002023	SOFTWARE 8525 CE V4.2 OTT IMAGE	1
DOC1	1008010	DOCUMENT ARTWORK PCB 8525/30 MAIN LOGIC BOARD	0
DOC2	1008013	DOCUMENT PCB ASSEMBLY 8525/30 MAIN LOGIC BOARD	0
DOC3	1008014	DOCUMENT SCHEMATIC 8525/30 MAIN LOGIC BOARD	0
DOC4	7000530-200	DOCUMENT 8525 MLB PRODUCTION FUNCTIONAL TEST SPECIFICATION	0
DOC5	1010084	DOC SERIAL NUMBER CODING INST	0

I2C DEVICE MAPPING

DEVICE	8-BIT ADDRESS	7-BIT ADDRESS
REAL TIME CLOCK - RV5C386A	32H	64H
TEMPERATURE A/D - PCF8591T	48H	90H
PCON - M30624FGPGP-D5	08H	10H
MLB EEPROM - M24C01WDW6T	53H	A6H
DTB EEPROM - M24C01WDW6T	52H	A4H
BATTERY PACK EEPROM - M24C01WDW6T	50H	A0H
BATTERY PACK CONTROLLER - BQ2060	0BH	16H
KEYBOARD CONTROLLER	33H	66H

18-Nov-2004

AUG 12, 2004

SIGNATURES	DATE				
DRAWN NGT TEAM	AUG 4 2004	PSION TEKLOGIX INC MISSISSAUGA ONTARIO			
CHKD					
APPVD		TITLE DOC SCHEMATIC 8525/30 MAIN LOGIC BOARD			
PROJ ENG		CODE IDENT. NO.	SIZE	DRAWING NO.	REV
		28481	C	1008014	E
OTHER		Scale N/A	INTERIM REV	SHEET	OF
ECO No.: REL. DATE			E2	1	22

PXA255

GDPXA255A0E400

U1
9003333

CORE VDD

PLL_VCC
PLL_VSS
PEXTAL
PXTAL
TEXTAL
TXTAL
BOOT_SEL2
BOOT_SEL1
BOOT_SEL0
~RESET
~RESET_OUT
PWR_EN
~BATT_FAULT
~VDD_FAULT
DQM3
DQM2
DQM1
DQM0
~SDCS3
~SDCS2
~SDCS1
~SDCS0
~SDRAS
~SDCAS
SDCKE1
SDCKE0
SDCLK2
SDCLK1
SDCLK0
~CS5_GP33
~CS4_GP80
~CS3_GP79
~CS2_GP78
~CS1_GP15
~CS0
~OE
~WE
RD_~WR
RDY_GP18
DREQ1_GP19
DREQ0_GP20
GP22
GP21
FFRXD_GP34
FFTXD_GP39
FFCTS_GP35
FFDCD_GP36
FFDSR_GP37
FFRI_GP38
FFDTR_GP40
FFRTS_GP41
IRRXD_GP46
IRTXD_GP47
USB_P
USB_N
TCK
TDI
TDO
TMS
~TRST
TEST
TESTCLK

DMA
FULL FUNCTION UART
IrDA
USB Client
JTAG

VCCQ = POSITIVE SUPPLY FAR ALL I/O EXCEPT MEMORY BUS AND PCMCIA
VCCQ: DVDD_3V3;C6,C10,C13,E14,G14,D15,M11
VCCN = POSITIVE SUPPLY FOR MEMORY BUS AND PCMCIA
VCCN DVDD_3V3;A1,D4,F4,K4,M4,M14,H4,N5,N7,N9,N11,N13,P3,T16,T2
VSS = CORE GROUND
VSS: DGND;C16,J8,J9,H8,H9,T1
VSSQ = GROUND SUPPLY FOR ALL I/O EXCEPT MEMORY BUS AND PCMCIA
VSSQ: DGND;C11,C14,F6,G8,G10,C4,C8,J10,J14,L14,H7,K7,K9,F15,F16,D16,E15,E16
VSSN = GROUND SUPPLY FOR MEMORY BUS AND PCMCIA
VSSN: DGND;E2,G2,C2,J2,M15,P15,R2,R4,R6,R8,R10,R12,L2,N2,R14

A[25:0]
D[31:0]

MMC Controller
MMCCMD
MMCDAT
I2C Controller
SCL
SDA

LCD CONTROLLER PINS
AC97 CONTROLLER
SSP PINS
Bluetooth UART
PWM
GPIO PINS
PCMCIA/CF CONTROL PINS

L_DD15_GP73 B3 ~NAND_CHIP_ENABLE
L_DD14_GP72 C3 ~CF_PCD
L_DD13_GP71 A2 ~CF_STSCHG
L_DD12_GP70 A3 CF_PRDY
L_DD11_GP69 A4
L_DD10_GP68 D5
L_DD9_GP67 A5
L_DD8_GP66 C5 ~EXT_SCNR_TRIG
L_DD7_GP65 A6 EXT_SCNR_ENA
L_DD6_GP64 E5 EXT_SCNR_ACK
L_DD5_GP63 D6
L_DD4_GP62 E6
L_DD3_GP61 B7
L_DD2_GP60 C7
L_DD1_GP59 D7
L_DD0_GP58 E7
L_FCLK_GP74 E8
L_LCLK_GP75 D8 ~PCM_PCD
L_PCLK_GP76 B8 ~PCM_STSCHG
L_BIAS_GP77 A8 PCM_PRDY
BITCLK_GP28 C9 ACLINK_BITCLK
SDATA_IN0_GP29 E10 ACLINK_SDATAIN
SDATA_IN1_GP32 A16
SDATA_OUT_GP30 A10
SYNC_GP31 E11
~ACRESET D10 ~ACLINK_RESETB
SSPSCLK_GP23 F9
SSPSFRM_GP24 E9 SSPSFRM
SSPTXD_GP25 D9 SSPTXD
SSPRXD_GP26 A9 SSPRXD
SSPEXTCLK_GP27 B9
BTRXD_GP42 B13 COM1_RXD
BTTXD_GP43 D13 COM1_TXD
BTCTS_GP44 A15 ~COM1_CTS
BTRTS_GP45 B14 ~COM1_RTS
PWM1_GP17 D12 BEEPER_VOLUME
PWM0_GP16 E12 BEEPER_SIGNAL
GP14_MBREQ B4 MBREQ
GP13_MBGNT B5 MBGNT
GP12_32KHZ_OUT B6 ~NAND_WRITE_PROTECT
GP11_3M6864_OUT A7 PXA_3M6864_OUT
GP10_RTCCLK F7
GP9_MMCCS1 F12
GP8_MMCCS0 F14
GP7_48MHZ_OUT G15
GP6_MMCCLK H14
GP5 J11 ~RTC_IRQB
GP4 J12
GP3 K14 ~MQ1188_IRQ
GP2 L13 ~TP_IRQ
GP1 L12 FIQ
GP0 L10 ~PCON_IRQ
~PSKTSEL_GP54 P16 PSKTSEL
~PREG_GP55 M13 ~PREG
~PCE1_GP52 P14 ~PCE1
~PCE2_GP53 R16 ~PCE2
~PIOR_GP50 T15 ~PIOR
~PIOW_GP51 R15 ~PIOW
~POE_GP48 P13 ~POE
~PWE_GP49 T14 ~PWE
~PWAIT_GP56 N16 ~PWAIT
~IOIS16_GP57 M16 ~IOIS16

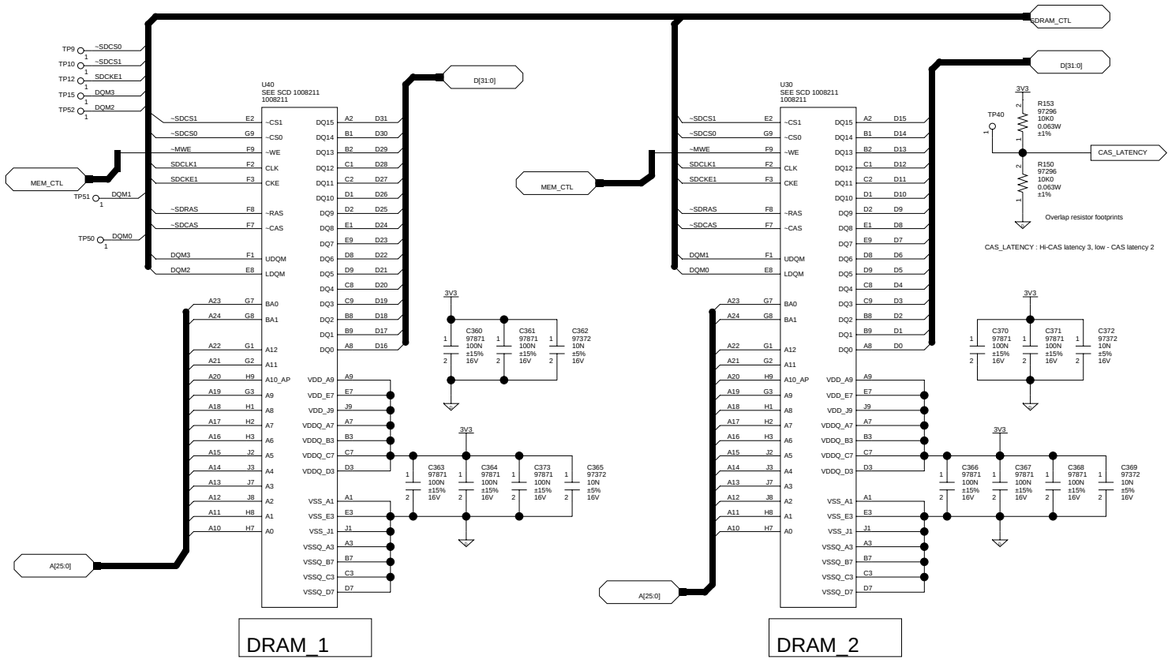
NAND_FLASH_BUS
CF_IN
~MOTION_DETECT
EN_COM2_PWR
~SS_PWR_DWN
EXT_SCAN
~ASIC_ACK
COM2_EN
~COM2_AUTO_ONLINE
S2_CARD_ERROR
~MQ1188_PWRDN
~SS_CLK_PWR_EN
PC_IN
AC_LINK
SSP_BUS
CAS_LATENCY
COM1_BUS
BEEPER
MB_REQ
NAND_FLASH_BUS
CLK_3M6864
CLK_48MHZ
~ASIC_REQ
~3V3_PWR_OFF
TOUCH_BUS
LOW_ENERGY_LATCH
IRQ_BUS
PCON_CONSOLE
I2C_BUS
PCM_IN
I2C_BUS_SW

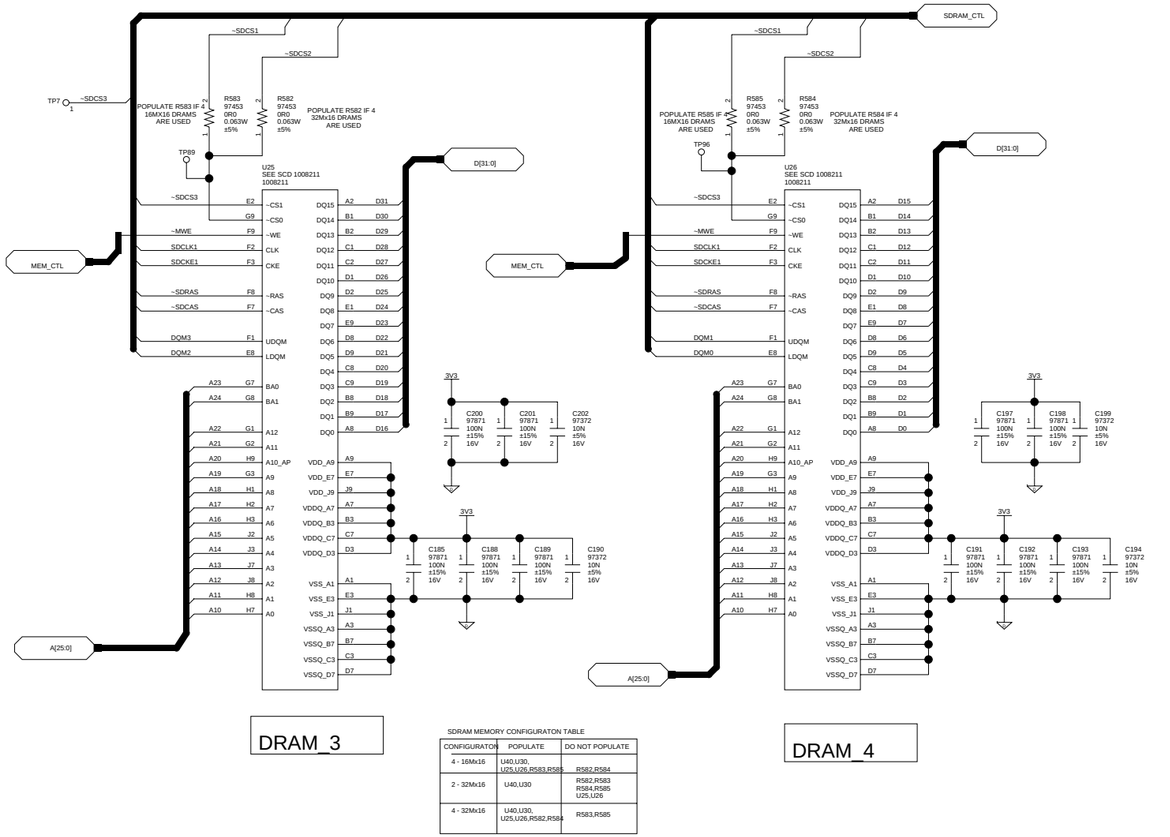
CORE_VDD
FL4 98136 BLM21A102S? 200MA
CPU_PLL_VCC
C134 94054 1U0 ±10% 16V
C182 97871 100N ±15% 16V
C183 97871 100N ±15% 16V
U20 NC7SP08P5X 9001584
3MHZ6864
CLK_3M6864_CORE
TP16
TP23
R204 97296 10K0 0.063W ±1%
R203 97296 10K0 0.063W ±1%
TP25
TP26
R176 97232 22R1 ±1% 0.063W
CLK_PXA_EXTAL
TP39
TP38
X4 FSR327 9001596
C14 97365 12P 5% 50V
C15 97365 12P 5% 50V
~SA2_RESET
R305 97296 10K0 0.063W ±1%
TP24
TP28
COREVDD_EN
~BATT_FAULT
3V3
R149 97296 10K0 0.063W ±1%
R145 97296 10K0 0.063W ±1%
R210 97296 10K0 0.063W ±1%
R205 97296 10K0 0.063W ±1%
~SDCS3
~SDCS2
~SDCS1
~SDCS0
SDRAM_CTL
R171 97232 22R1 ±1% 0.063W
R172 97232 22R1 ±1% 0.063W
R173 97232 22R1 ±1% 0.063W
R131 97232 22R1 ±1% 0.063W
R174 97232 22R1 ±1% 0.063W
SDCLK2
SDCLK1
TP37
~LCD_CS3
MEM_CTL
TP13
~ASIC_CS5
TP150
~LCD_CS3
~MQ1188_CS2
~FLASH_CS1
R206 97296 10K0 0.063W ±1%
MRDY
SSP_BUS
NAND_FLASH_BUS
REQUEST_SSP_XFER
NAND_READY_BUSY
NAND_ADDR_LATCH_ENABLE
NAND_CMD_LATCH_ENABLE
COM2
COM2_RXD
COM2_TXD
~COM2_CTS
~COM2_DCD
~COM2_DSR
~COM2_DTR
~COM2_RTS
CONSOLE_RXD_SW
SA2_TXD
C76 9003429 10U +80%/-20% 16V
C77 9003429 10U +80%/-20% 16V
C78 9003429 10U +80%/-20% 16V
C167 97871 100N ±15% 16V
C168 97871 100N ±15% 16V
C169 97871 100N ±15% 16V
C170 97871 100N ±15% 16V
C285 97372 10N ±5% 16V
C171 97871 100N ±15% 16V
C172 97871 100N ±15% 16V
C173 97871 100N ±15% 16V
C174 97871 100N ±15% 16V
C276 97372 10N ±5% 16V
C162 97871 100N ±15% 16V
C163 97871 100N ±15% 16V
C164 97871 100N ±15% 16V
C165 97871 100N ±15% 16V
C166 97871 100N ±15% 16V
C275 97372 10N ±5% 16V
JTAG_BUS
~TEST
TCK
R613 97320 100K 0.063W ±1%
TP22
R213 97296 10K0 0.063W ±1%
R212 97296 10K0 0.063W ±1%
R215 97296 10K0 0.063W ±1%
TP36
TP17
TP18
R207 97296 10K0 0.063W ±1%
R208 97296 10K0 0.063W ±1%
TP31
TP32
I2C_SDA_SW
I2C_SCL_SW
I2C_BUS_SW

C181 97871 100N ±15% 16V
C180 97871 100N ±15% 16V
C179 97871 100N ±15% 16V
C178 97871 100N ±15% 16V
C177 97871 100N ±15% 16V
C176 97871 100N ±15% 16V
C175 97871 100N ±15% 16V
R209 97296 10K0 0.063W ±1%
TP19
R178 97232 22R1 ±1% 0.063W
TP20
R186 97296 10K0 0.063W ±1%
R363 97272 1K00 0.063W ±1%
TP27
TP29
TP30
TP2
TP5
R101 97232 22R1 ±1% 0.063W
R95 97232 ±1% 0.063W
TP211 ±1% 0.063W 22R1
R177 97232
TP605
TP604
TP602
R175 97232 22R1 ±1% 0.063W
3V3_STANDBY
C184 97871 100N ±15% 16V
U29 9001597 SN74CBTLV3126DGVR
TP33
TP35
R125 97296 10K0 0.063W ±1%
~SA2_RESET
CONSOLE_RXD
I2C_SDA
I2C_SCL

18-Nov-2004
AUG 4 2004

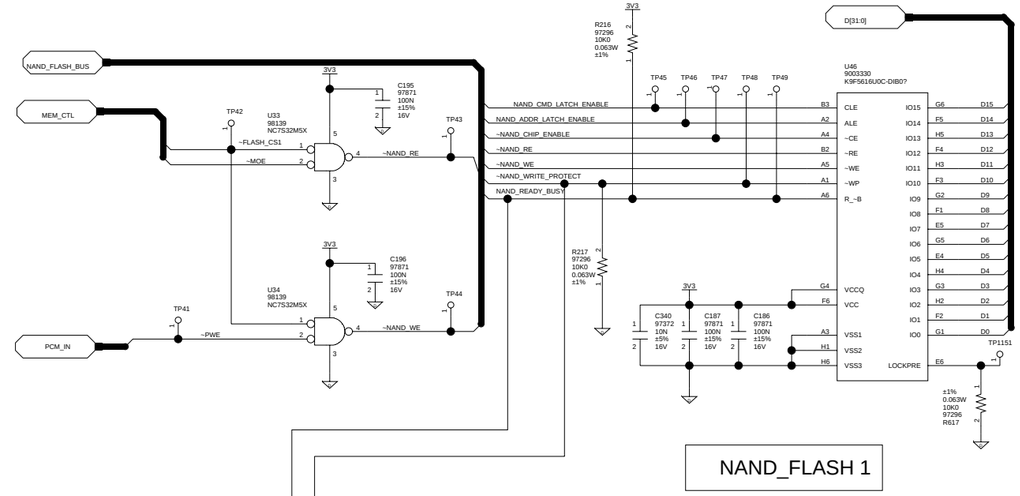
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA, ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD PXA255 PROCESSOR	
APPVD			
PROJ ENG		38491 C 1008014 E	
OTHER		SCALE N/A INTERIM REV	SHEET 2 OF 22
ECO No.: REL DATE			

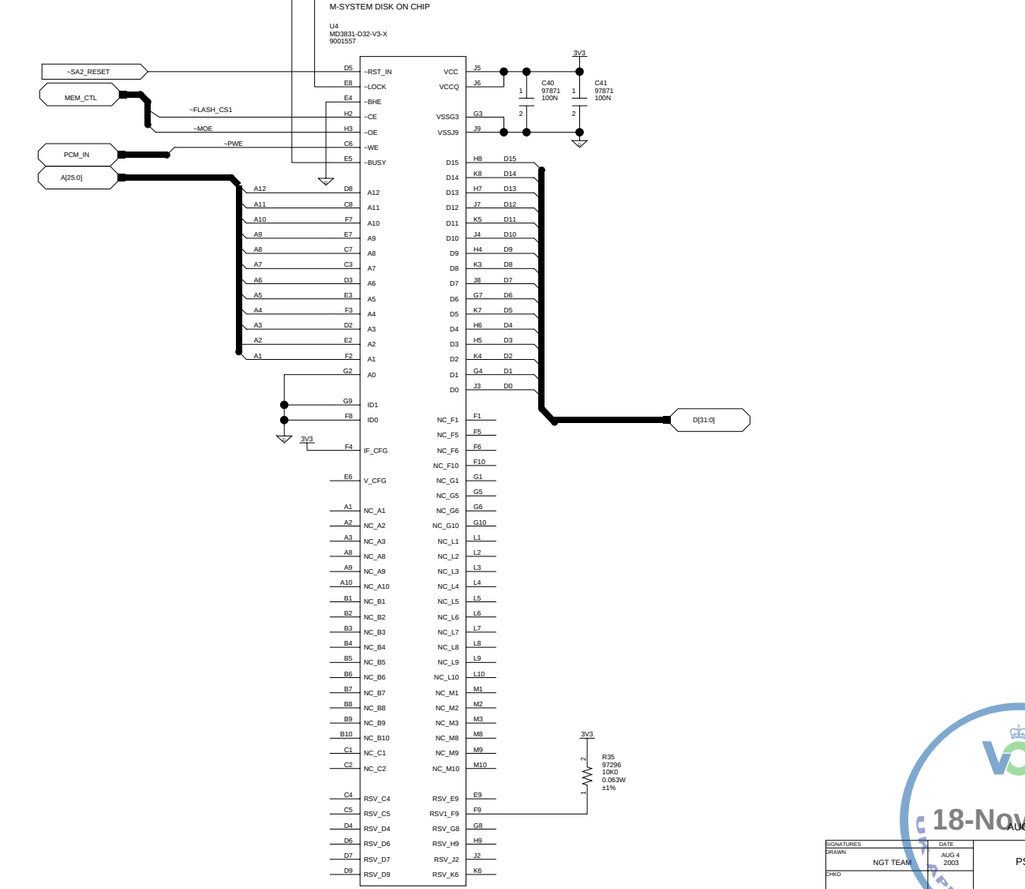




SDRAM MEMORY CONFIGURATON TABLE

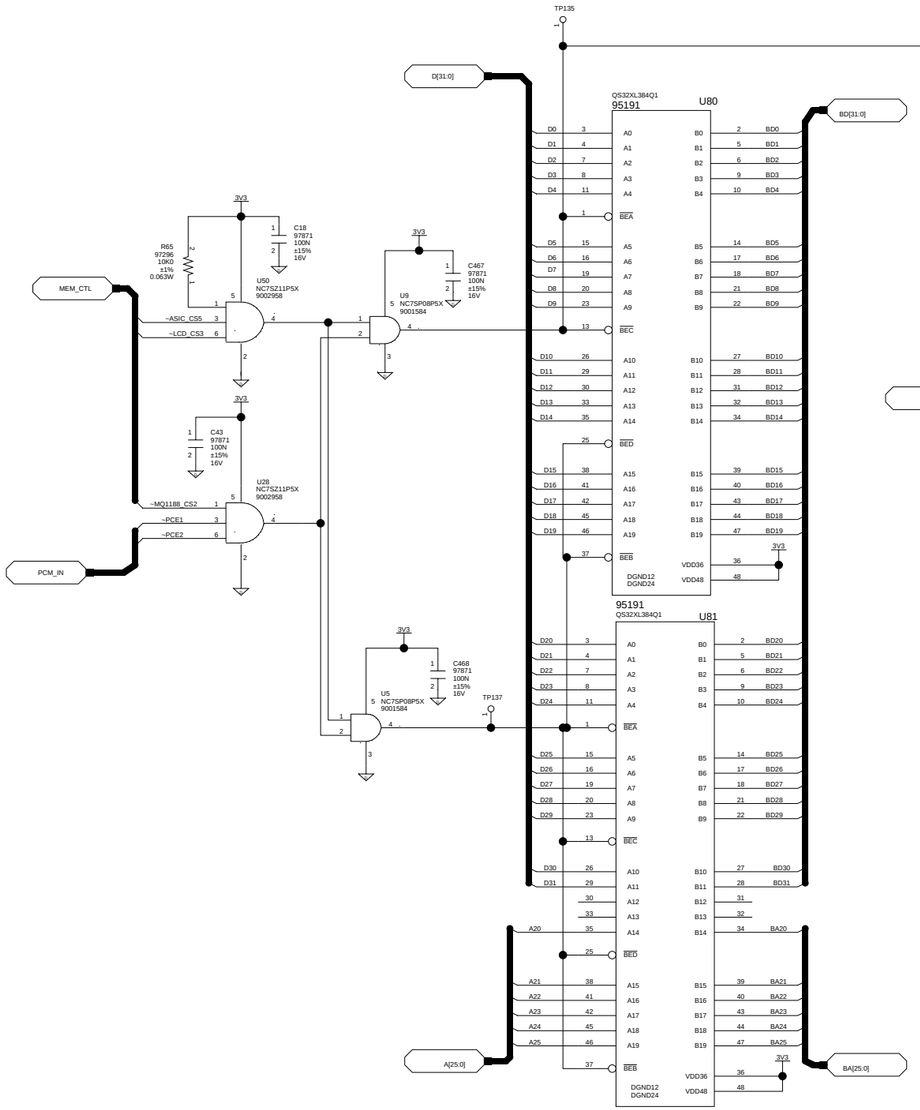
CONFIGURATON	POPULATE	DO NOT POPULATE
4 - 16Mx16	U40,U30, U25,U26,R583,R585	R582,R584
2 - 32Mx16	U40,U30	R582,R583 R584,R585 U25,U26
4 - 32Mx16	U40,U30, U25,U26,R582,R584	R583,R585

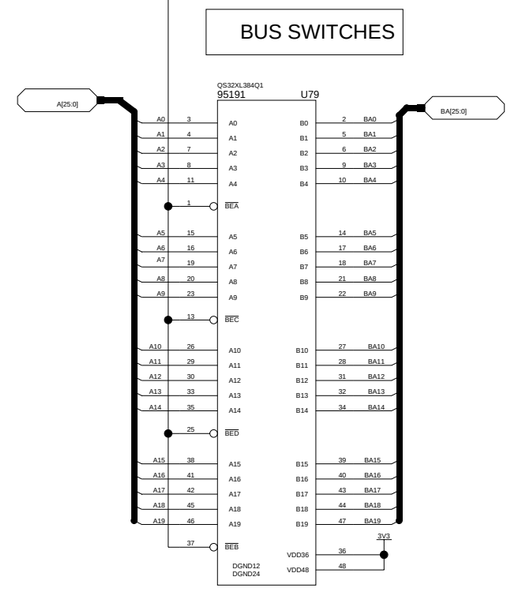




18-Nov 2004
AUG 4 2004
APPROVED

SIGNATURES	DATE				
DRAWN NGT TEAM	AUG 4 2003	PSION TEKLOGIX INC			
CHKD		MISSISSAUGA ONTARIO			
APP'VD		TITLE SCHEMATIC 8525/8530 MAIN LOGIC BOARD MEMORY			
PROJ ENG		CODE IDENT NO. 38481	SIZE C	DRAWING NO. 1008014	REV E
OTHER		Scale N/A	INTERIM REV	SHEET 3	OF 22
ECO No.: REL DATE					





18-Nov-2004

AUG 4 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC B525/9530 MAIN LOGIC BOARD ADDRESS & DATA BUS SWITCHES	
APPVD		CODE IDENT. NO. 38481	SIZE C
PROJ ENG		DRAWING NO. 1008014	REV E
OTHER		Scale N/A	INTERIM REV
ECO No.: REL DATE			SHEET 4 OF 22

PCON

I2C ACCELERATOR

PCON CONSOLE

EEPROM

OPTION SELECT

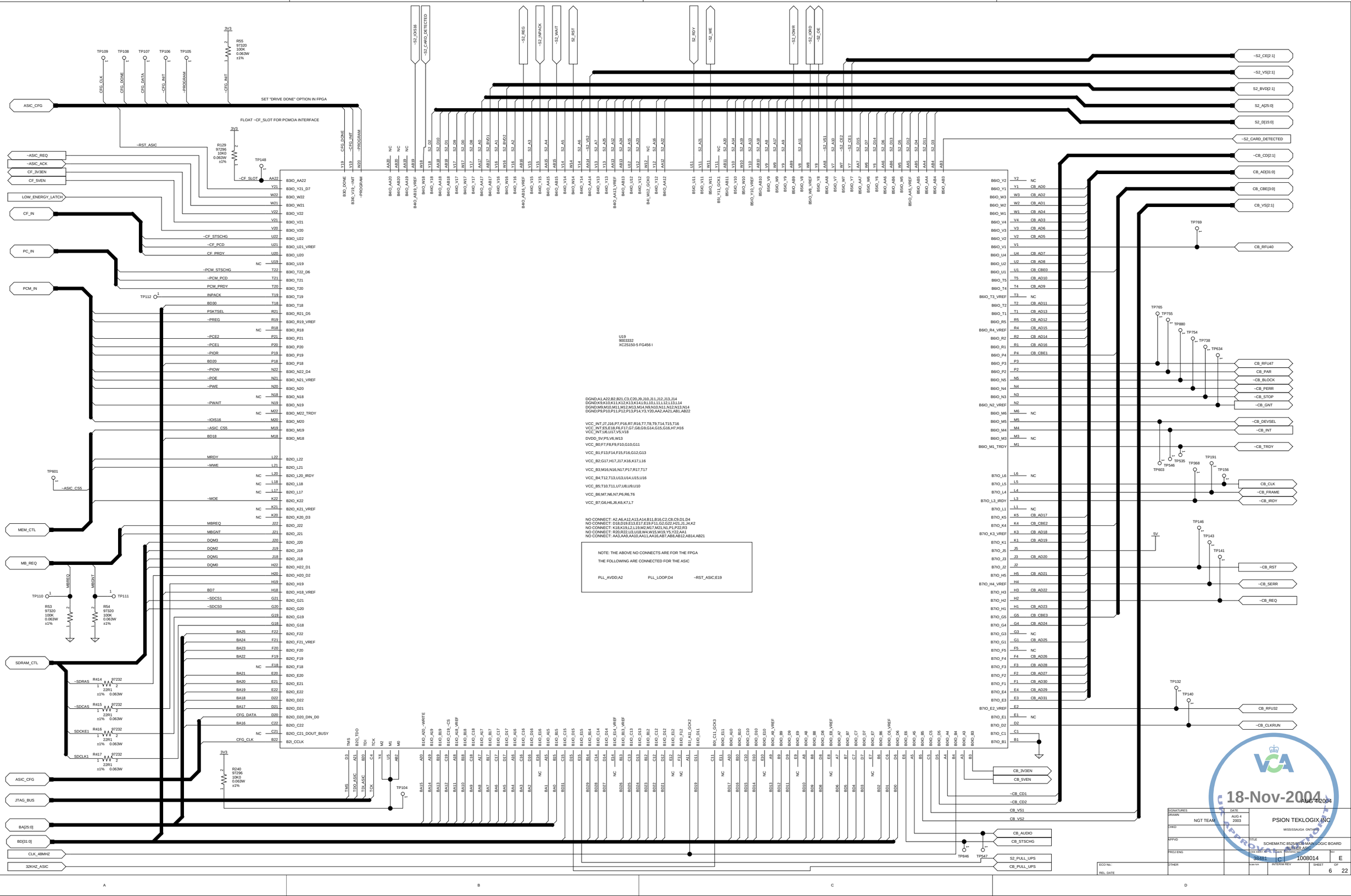
POWER SWITCH

BATT_MONITOR

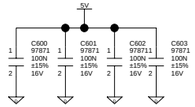
~RST_PCON
PROGRAM_PCON
~CE_PROG
SERIAL_PROG
SCLK_PROG
** USED FOR TERMINAL SELECTION
PERIPHERAL CONTROLLER
U65 M30624FGPGP-D3 9003331
X3 ABMC2-7.3728MHZ-18-100-D 9003434
R395 97453 0R0 0.063W ±5%
C72 97370 18P ±5% 50V
C71 97370 18P ±5% 50V
XIN
XOUT
~RESET
CNVSS
BYTE
3V3_STANDBY
C341 97372 10N ±5% 16V
C203 97871 100N ±15% 16V
C204 97871 100N ±15% 16V
~3V3_PWR_OFF
~5V_PWR_OFF
~SA2_RESET
HICOREVDD_EN
A2D_RATIOMETRIC_DRIVE
PCON_A/D_BUS
R364 97272 1K00 0.063W ±1%
R365 97272 1K00 0.063W ±1%
R235 97296 10K0 ±1% 0.063W
TP83
TP84
TP87
TP82
REQUEST_SSP_XFER
SSP_BUS
U35 98139 NC7S32M5X
SSPSCLK
SSPSFRM
SSPTXD
SSPRXD
C374 97871 100N ±15% 16V
R366 97272 1K00 0.063W ±1%
TP70
R229 10K0 0.063W ±1%
PCON_CLK0
SCLK_PROG
I2C_SDA
I2C_SCL
LOW_ENERGY_LATCH
LOW_ENERGY
PWR_SYNC_CLK
~BATT_FAULT
ENABLE_32KHZ
~NMI
CORE_EN
~POWER_ON
EXT_SCNR_SOS
EXT_SCNR_DATA
EL_COMMAND
ANALOG_CCFL_DIM
VTERM_DAC
CHARGE_EN
ACPRES
~ACSEL
TETHER_ID
AUX_ID
LCD_TYPE
OPTIONS_A_D
BATTERY_VOLTAGE
LCD_THERM
R134 97296 10K0 ±1% 0.063W
C1125 97871 100N ±15% 16V
PCON_AVSS
SIGNAL=DGND:12,62
AVCC
CMP
VREF
AVCC
AVSS
FL5 98136 BLM21A102S? 200MA
C135 94054 1U0 ±10% 16V
C212 97871 100N ±15% 16V
R392 97453 0R0 0.063W ±5%
TP77
USE 128K FLASH PART WITH ASIC
USE 256K FLASH PART WITH FPGA
TP139
R128 97296 10K0 ±1% 0.063W
R63 9003438 ERTJ0ER103J 10K AT 25°C 5%
C469 97871 100N ±15% 16V
MLB TEMPERATURE
I/O PORT P0
I/O PORT P1
I/O PORT P2
I/O PORT P3
I/O PORT P4
I/O PORT P5
I/O PORT P6
I/O PORT P7
I/O PORT P8
I/O PORT P9
I/O PORT P10
EN_SW_PWR
TETHER_POWER_ON
BAT_PRES
~EXT_KYBD_DETECT
RADIO_HEATER
LCD_HEATER_CTL
EN_AUX_PORT_PWR
MLB_HEATER_EN
KEYBOARD_HEATER_EN
~EXT_KYBD_PWR_EN
PCON_CONSOLE
EXT_SCAN
~MOTION_DETECT
FPGA_CFG
JTAG_BUS
IRQ_BUS
COM3_1_EN
TETHER_SEL_1
TETHER_SEL_0
~TP_IRQ
GND_TETHER_POWER
CONVERTER_ENABLE
DISPLAY_CFG
CONSOLE_TXD_SEL
R317 ±1% 0.063W 1K00 97272
TP868
CFG_DONE
~CFG_INIT
EXT_SCNR_ENA
~KBD_IRQ
~PROGRAM
CFG_CLK
CFG_DATA
~RST_ASIC
~RTC_IRQB
~CCFL_EN
TDO_CPU
TMS
TCK
~TRST
TDI
~PCON_IRQ
R156 97296 10K0 0.063W ±1%
R46 97320 100K 0.063W ±1%
R190 97296 10K0 0.063W ±1%
TP56
R231 97296 10K0 ±1% 0.063W
R225 97296 10K0 ±1% 0.063W
TP90
R179 22R1 ±1% 0.063W
3MHZ6864
COREVDD_EN
EXT_SCAN
TP68
R227 97296 10K0 0.063W ±1%
R163 97296 10K0 ±1% 0.063W
R587 97453 0R0 0.063W ±5%
TP147
U12 9000568 LTC1694IS5
SMBUS1
SMBUS2
C217 97871 100N ±15% 16V
R221 97296 10K0 ±1% 0.063W
R224 97296 10K0 ±1% 0.063W
C205 97871 100N ±15% 16V
U22 M24C01WDW6T 98185
TP102
TP103
TP129
TP80
R318 ±1% 0.063W 1K00 97272
PCON_CONSOLE_RXD
CONSOLE_RXD
PCON_CONSOLE_TXD
PCON_CONSOLE
32KHZ
U41 9000515 NC7SZ125P5X
C415 97372 10N ±5% 16V
C214 97871 100N ±15% 16V
R233 97296 10K0 0.063W ±1%
TP72
RTC_SUPPLY
TP867
TP66
FSR327 9001596
XS
C17 97365 12P ±5% 50V
C16 97365 12P ±5% 50V
C209 97871 100N ±15% 16V
U15 RV5C386A 98184
OSCIN
32KOUT
OSCOUT
CLKC
VDD
SDA
SCL
~INTRA
~INTRB
VSS
3V3
R230 97296 10K0 0.063W ±1%
TP86
R47 97320 100K 0.063W ±1%
ENABLE_32KHZ
I2C_BUS
IRQ_BUS
R127 97296 10K0 0.063W ±1%
J9 9002925
53261-0290 MOLEX
P7 9001855 TSW-102-07-G-S-RA
P6 9001855 TSW-102-07-G-S-RA
CONSOLE_TXD_SEL
DEBUG ONLY
DO NOT POPULATE
Q10 97634 FDV303N 25V_350MW
TP14
TP21
R77 97320 100K 0.063W ±1%
±1% 0.063W 1K00 97272 R192
C24 97375 1N0 ±10% 50V
R19 97316 68K1 0.063W ±1%
TP59
TP60
R44 97320 100K 0.063W ±1%
C213 97871 100N ±15% 16V
U38 97866 LPV321M7
R226 97296 10K0 0.063W ±1%
TP61
VBAT_MAIN_IN
R148 97331 301K 0.063W ±1%
R199 97313 51K1 0.063W ±1%
TP58
C90 97371 100P ±5% 50V
Q52 BSS84 9000501 50V_350MW
R50 97320 100K 0.063W ±1%
TP99
TP95
Q6 97634 FDV303N 25V_350MW
TP92
R51 97320 100K 0.063W ±1%
R238 97296 10K0 0.063W ±1%
R222 97296 10K0 0.063W ±1%
R223 97296 10K0 0.063W ±1%
R232 97296 10K0 0.063W ±1%
R236 97296 10K0 0.063W ±1%
TP98
TP74
TP75
TP76
TP97
R601 97453 0R0 0.063W ±5%
** USED FOR OPTION SELECTION
C218 97871 100N ±15% 16V
C207 97871 100N ±15% 16V
C208 97871 100N ±15% 16V
C216 97871 100N ±15% 16V
C26 97375 1N0 ±10% 50V
C25 97375 1N0 ±10% 50V
A/D_RATIOMETRIC_DRIVE
PCON_A/D_BUS

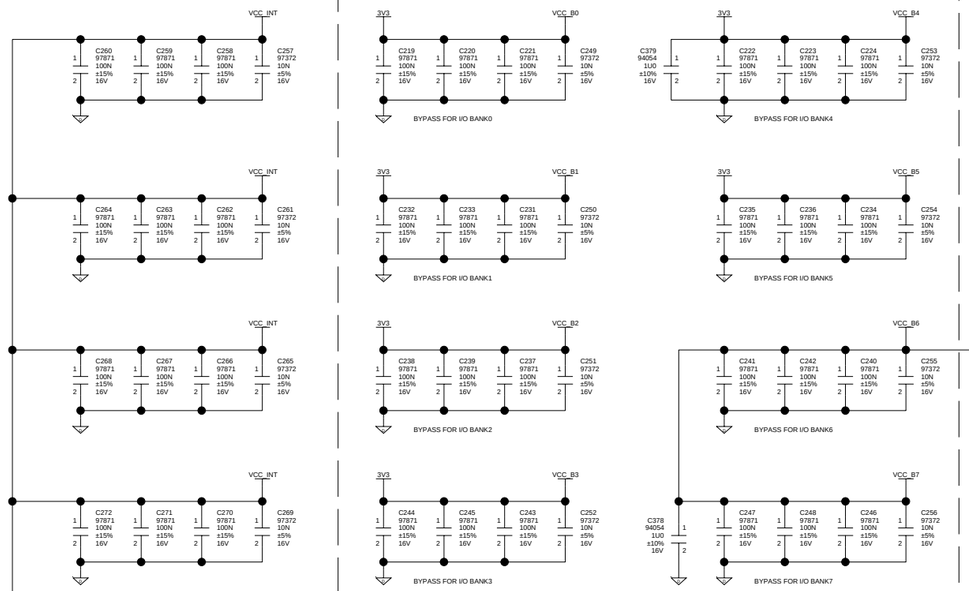
18-Nov-2004
AUG 4 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA, ONTARIO	
CHKD			
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD PERIPHERAL CONTROLLER	
PROJ ENG		CAGE CODE 98761 Scale N/A	REV E
OTHER		38491 C 1008014 INTERIM REV	SHEET 5 OF 22
ECO No.: REL DATE			


3V3
R55 97320 100K 0.063W ±1%
TP109 CFG_CLK
TP108 CFG_DONE
TP107 CFG_DATA
TP106 ~CFG_INIT
TP105 ~PROGRAM
~CFG_INIT
SET "DRIVE DONE" OPTION IN FPGA
ASIC_CFG
FLOAT ~CF_SLOT FOR PCMCIA INTERFACE
3V3
R129 97296 10K0 0.063W ±1%
~RST_ASIC
TP148
~CF_SLOT
~ASIC_REQ
~ASIC_ACK
CF_3V3EN
CF_5VEN
LOW_ENERGY_LATCH
CF_IN
PC_IN
PCM_IN
TP112
~CF_STSCHG
~CF_PCD
CF_PRDY
~PCM_STSCHG
~PCM_PCD
PCM_PRDY
INPACK
BD30
PSKTSEL
~PREG
~PCE2
~PCE1
~PIOR
BD20
~PIOW
~POE
~PWE
~PWAIT
~IOIS16
~ASIC_CS5
MRDY
~MWE
~MOE
MBREQ
MBGNT
DQM3
DQM2
DQM1
DQM0
BD7
~SDCS1
~SDCS0
BA25
BA24
BA23
BA22
BA21
BA20
BA19
BA18
BA17
CFG_DATA
BA16
CFG_CLK
B3IO_N19
B3IO_M22_TRDY
B3IO_M20
B3IO_M19
B3IO_M18
B2IO_L22
B2IO_L21
B2IO_L20_IRDY
B2IO_L18
B2IO_L17
B2IO_K22
B2IO_K21_VREF
B2IO_K20_D3
B2IO_J22
B2IO_J21
B2IO_J20
B2IO_J19
B2IO_J18
B2IO_H22_D1
B2IO_H20_D2
B2IO_H19
B2IO_H18_VREF
B2IO_G21
B2IO_G20
B2IO_G19
B2IO_G18
B2IO_F22
B2IO_F21_VREF
B2IO_F20
B2IO_F19
B2IO_F18
B2IO_E20
B2IO_E21
B2IO_E22
B2IO_D22
B2IO_D21
B2IO_D20_DIN_D0
B2IO_C22
B2IO_C21_DOUT_BUSY
B2I_CCLK
TP601
~ASIC_CS5
MEM_CTL
MB_REQ
MBREQ
MBGNT
TP110
TP111
RS3 97320 100K 0.063W ±1%
RS4 97320 100K 0.063W ±1%
SDRAM_CTL
~SDRAS
~SDCAS
SDCKE1
SDCLK1
R414 97232 22R1 ±1% 0.063W
R415 97232 22R1 ±1% 0.063W
R416 97232 22R1 ±1% 0.063W
R417 97232 22R1 ±1% 0.063W
ASIC_CFG
JTAG_BUS
BA[25:0]
BD[31:0]
CLK_48MHZ
32KHZ_ASIC
3V3
R240 97296 10K0 0.063W ±1%
TP104
~S2_IOIS16
~S2_CARD_DETECTED
~S2_REG
~S2_INPACK
~S2_WAIT
S2_RDY
~S2_IOWR
~S2_IOWR
~S2_OE
S2_RDY
~S2_WE
~S2_CE[2:1]
~S2_VS[2:1]
S2_BVD[2:1]
S2_A[25:0]
S2_D[15:0]
~S2_CARD_DETECTED
~CB_CD[2:1]
CB_AD[31:0]
CB_CBE[3:0]
CB_VS[2:1]
CFG_DONE
~CFG_INIT
~PROGRAM
B3IO_DONE
B3IO_VT5_~INIT
~PROGRAM
B4IO_AB16_VREF
B5IO_Y11_GCK1
B6IO_AB11_VREF
B7IO_Y10_VREF
B7IO_AB10_VREF
B4I_W12_GCK0
B4I_A11_GCK2
B5I_U11_GCK3
B6IO_Y2
B6IO_Y1
B6IO_W3
B6IO_W2
B6IO_W1
B6IO_V4
B6IO_V3
B6IO_V2
B6IO_V1
B6IO_U4
B6IO_U2
B6IO_U1
B6IO_T5
B6IO_T4
B6IO_T3_VREF
B6IO_T2
B6IO_T1
B6IO_R5
B6IO_R4_VREF
B6IO_R2
B6IO_R1
B6IO_P4
B6IO_P3
B6IO_P2
B6IO_N5
B6IO_N4
B6IO_N3
B6IO_N2_VREF
B6IO_M6
B6IO_M5
B6IO_M4
B6IO_M3
B6IO_M1_TRDY
B7IO_L6
B7IO_L5
B7IO_L4
B7IO_L3_IRDY
B7IO_L1
B7IO_K5
B7IO_K4
B7IO_K3_VREF
B7IO_K1
B7IO_J5
B7IO_J3
B7IO_J2
B7IO_H5
B7IO_H4_VREF
B7IO_H3
B7IO_H2
B7IO_H1
B7IO_G5
B7IO_G4
B7IO_G3
B7IO_G1
B7IO_F5
B7IO_F4
B7IO_F3
B7IO_F2
B7IO_F1
B7IO_E4
B7IO_E3
B7IO_E2_VREF
B7IO_E1
B7IO_D2
B7IO_C1
B7IO_B1
CB_3V3EN
CB_5VEN
~CB_CD1
~CB_CD2
CB_VS1
CB_VS2
CB_AUDIO
CB_STSCHG
S2_PULL_UPS
CB_PULL_UPS
TP846
TP547
TP769
CB_RFU40
TP765
TP755
TP880
TP754
TP738
TP634
CB_RFU47
CB_PAR
~CB_BLOCK
~CB_PERR
~CB_STOP
~CB_GNT
~CB_DEVSEL
~CB_INT
~CB_TRDY
TP546
TP603
TP535
TP368
TP191
TP156
CB_CLK
~CB_FRAME
~CB_IRDY
TP146
TP143
TP141
5V
~CB_RST
~CB_SERR
~CB_REQ
TP132
TP140
CB_RFU32
~CB_CLKRUN
U19
9003332
XC2S150-5 FG456 I
DGND;A1,A22,B2,B21,C3,C20,J9,J10,J11,J12,J13,J14
DGND;K9,K10,K11,K12,K13,K14,L9,L10,L11,L12,L13,L14
DGND;M9,M10,M11,M12,M13,M14,N9,N10,N11,N12,N13,N14
DGND;P9,P10,P11,P12,P13,P14,Y3,Y20,AA2,AA21,AB1,AB22
VCC_INT;J7,J16,P7,P16,R7,R16,T7,T8,T9,T14,T15,T16
VCC_INT;E5,E18,F6,F17,G7,G8,G9,G14,G15,G16,H7,H16
VCC_INT;U6,U17,V5,V18
DVDD_5V;P5,V6,W13
VCC_B0;F7,F8,F9,F10,G10,G11
VCC_B1;F13,F14,F15,F16,G12,G13
VCC_B2;G17,H17,J17,K16,K17,L16
VCC_B3;M16,N16,N17,P17,R17,T17
VCC_B4;T12,T13,U13,U14,U15,U16
VCC_B5;T10,T11,U7,U8,U9,U10
VCC_B6;M7,N6,N7,P6,R6,T6
VCC_B7;G6,H6,J6,K6,K7,L7
NO CONNECT: A2,A6,A12,A13,A14,B11,B16,C2,C8,C9,D1,D4
NO CONNECT: D18,D19,E11,E17,E19,F11,G2,G22,H21,J1,J4,K2
NO CONNECT: K18,K19,L2,L19,M2,M17,M21,N1,P1,P22,R3
NO CONNECT: R20,R22,U3,U18,W4,W15,W19,Y5,Y22,AA1
NO CONNECT: AA3,AA9,AA10,AA11,AA16,AB7,AB8,AB12,AB14,AB21
NOTE: THE ABOVE NO CONNECTS ARE FOR THE FPGA
THE FOLLOWING ARE CONNECTED FOR THE ASIC
PLL_AVDD;A2
PLL_LOOP;D4
~RST_ASIC;E19
18-Nov-2004
AUG 4 2004
SIGNATURES
DRAWN NGT TEAM AUG 4 2003
CHKD
APPVD
PROJ ENG
OTHER
PSION TEKLOGIX INC
MISSISSAUGA ONTARIO
TITLE SCHEMATIC B525/B530 MAIN LOGIC BOARD BUFFER ASIC
SIZE 38481 DWG NO C 1008014 REV E
SCALE N/A WEIGHT INTERIM REV SHEET 6 OF 22
ECO No.
REL. DATE

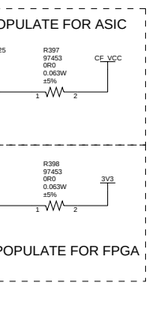
BYPASS CAPS FOR 5V TOLERANT I/O BANKS





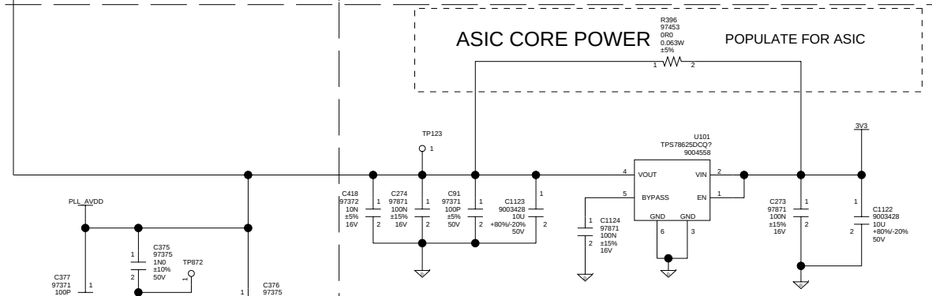
BYPASS CAPS FOR ASIC
CORE VOLTAGE

BYPASS CAPS FOR ASIC I/O BANKS



ASIC CORE POWER

POPULATE FOR ASIC

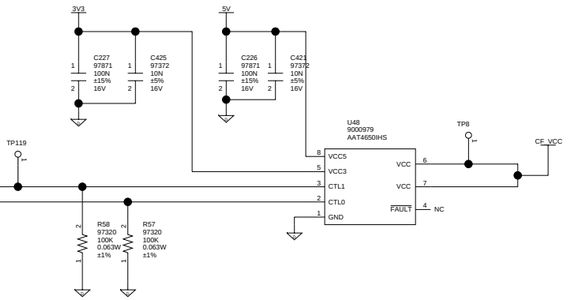


FPGA CORE POWER

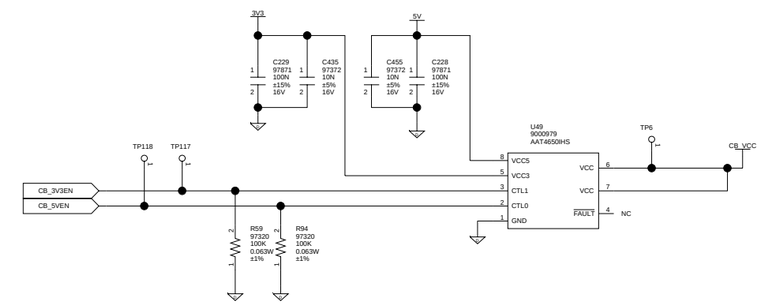
POPULATE FOR FPGA

ASIC PLL POWER

POPULATE ONLY FOR ASIC

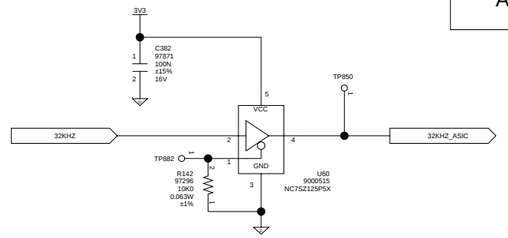


COMPACT FLASH / PCMCIA SLOT 0 POWER



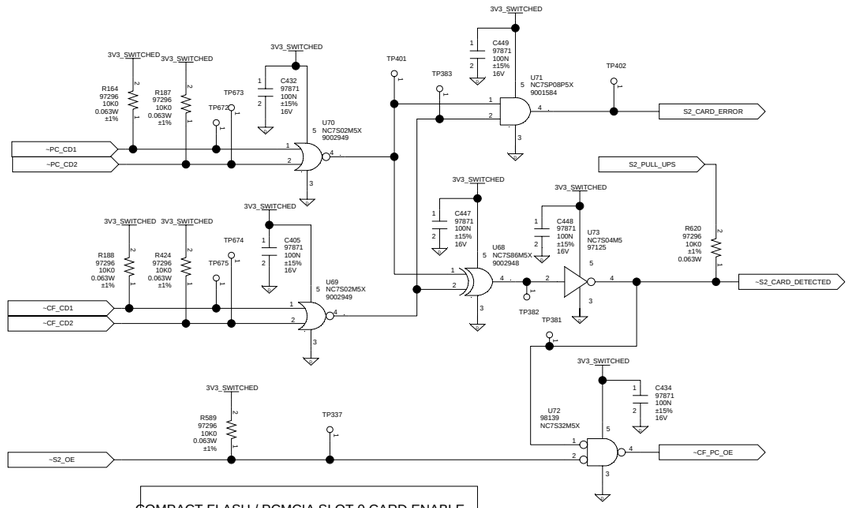
CARDBUS/ PCMCIA SLOT 1 POWER

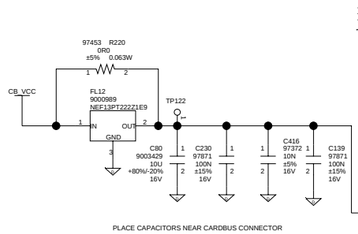
ASIC 32kHz CLOCK

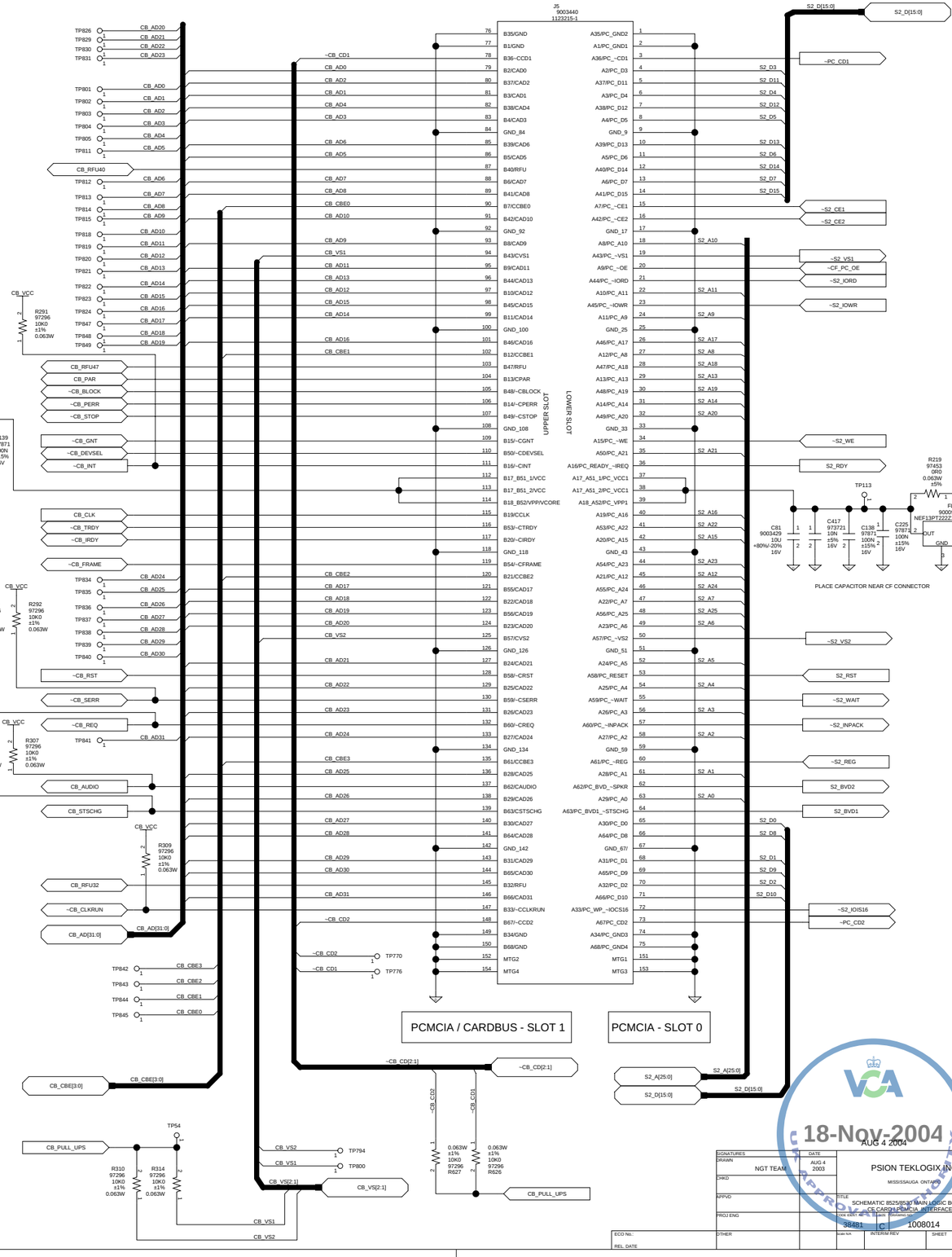


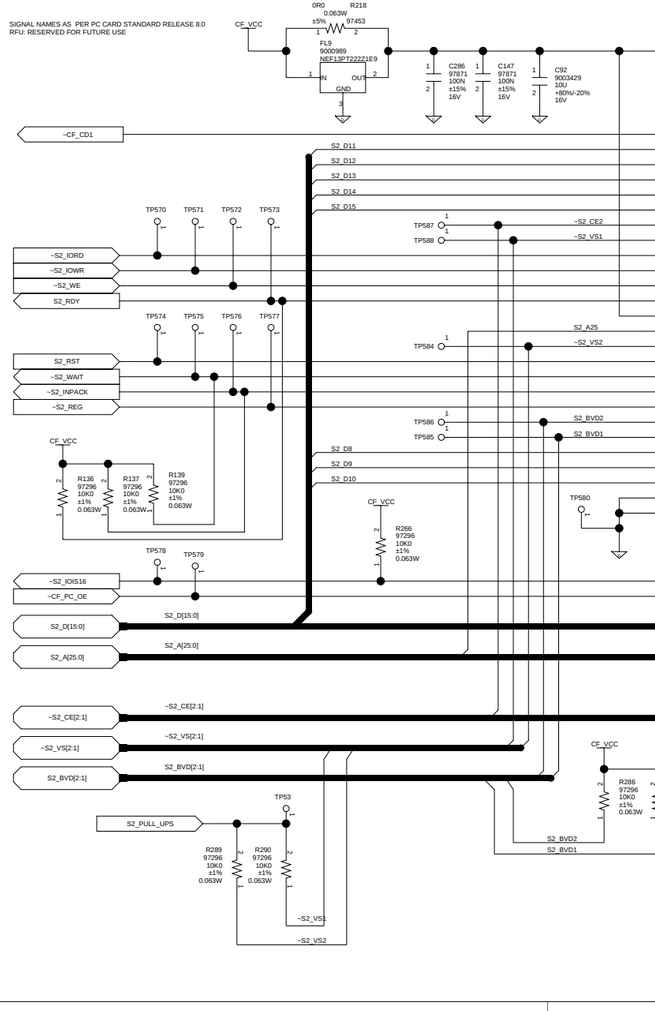
18-Nov-2004
AUG 4 2004

SIGNATURES	DATE			
DRAWN NGT TEAM	AUG 4 2003	PSION TEKLOGIX INC		
CHKD		MISSISSAUGA ONTARIO		
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD ASIC SUPPORT CIRCUITRY		
PROJ ENG		Size 38481	C	1008014
OTHER		Scale N/A	INTERIM REV	SHEET 7 OF 22
ECO No.: REL DATE				









18-Nov-2004
AUG 4 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/8530 MAIN LOGIC BOARD CE CARD/PCMCIA INTERFACE	
APPVD		Size A3	DWG NO. 9848/1
PROJ ENG		C	1008014
OTHER		Scale N/A	INTERM REV
ECO No.: REL. DATE			SHEET 8 OF 22

VCA
APPROVED

MQ1188 POWER

USB / SDIO CONTROLLER

U37 9001562 MQ1188-GBE

U67 9000515 NC7SZ125P5X

U11 MIC5247-1.5BM5 150MA 9001598

FL6 9000989 NEF13PT222Z1E9

INTEL SA-1110 PSA200 HOST BUS INTERFACE

FPI INTERFACE

SECURE DIGITAL/I/F

I2S CODEC

SPI

VIDEO INTERFACE

I/O POWER

CORE POWER

USB FUNCTION

USB HOST

PORTRAIT (on Huey & Calvin)

MEDIAQ_USB_DEVICE_PLUS

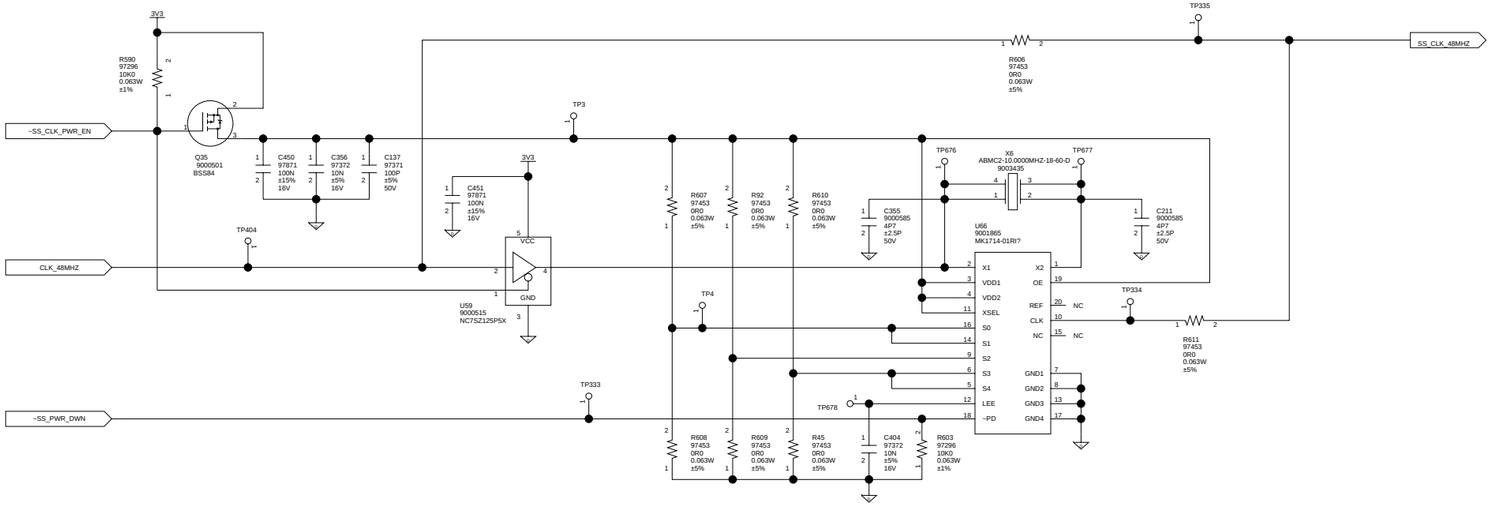
MEDIAQ_USB_DEVICE_MINUS

place as close as possible to mq1188

AUG 4 2004

18-Nov-2004
APPROVED

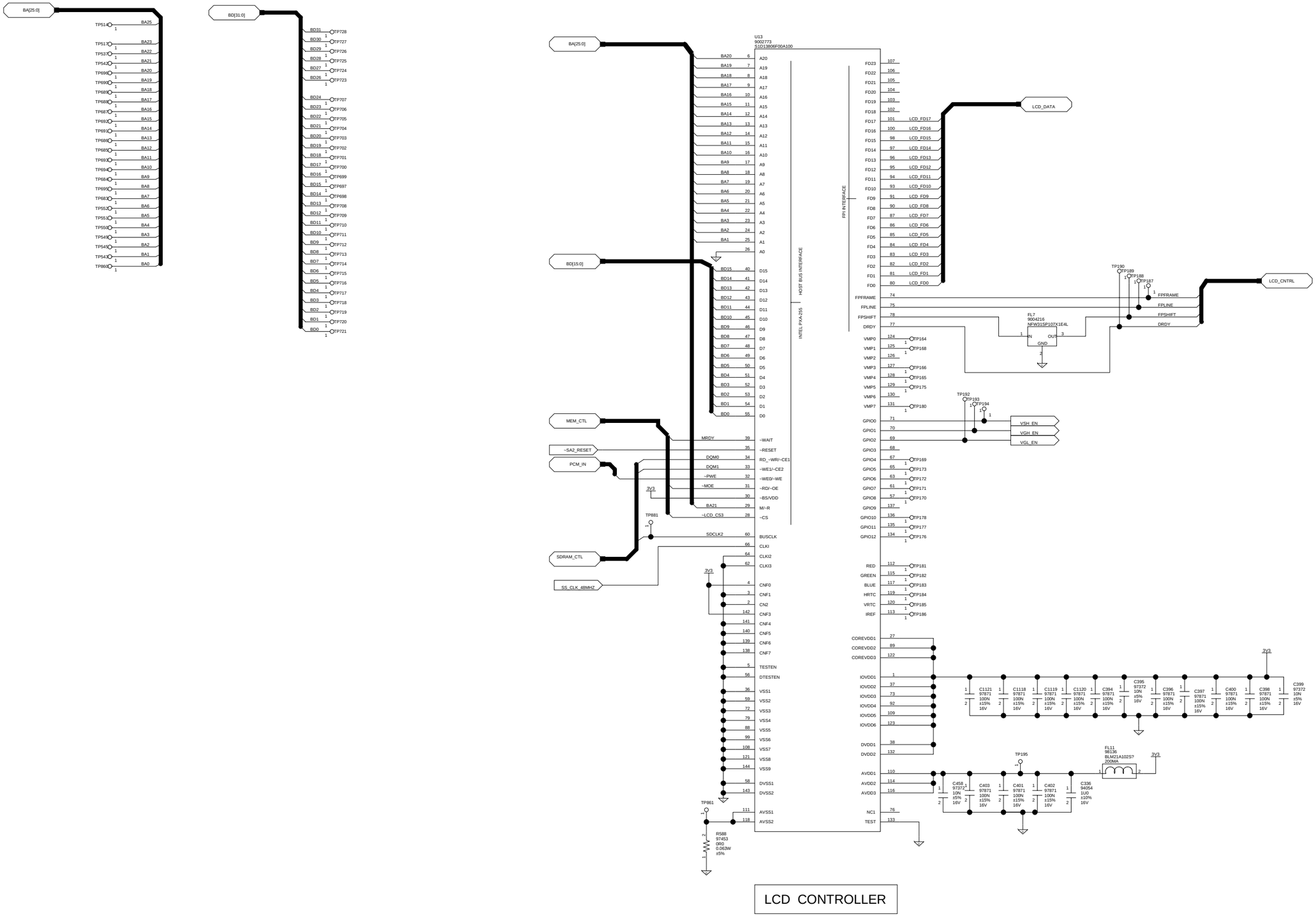
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA, ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD USB/SDIO CONTROLLER	
APPVD			
PROJ ENG			
		38481 C 1008014 E	
ECO No.:		Scale N/A INTERIM REV SHEET 9 OF 21	
REL DATE	DTHER		



SPREAD SPECTRUM CLOCK GENERATOR

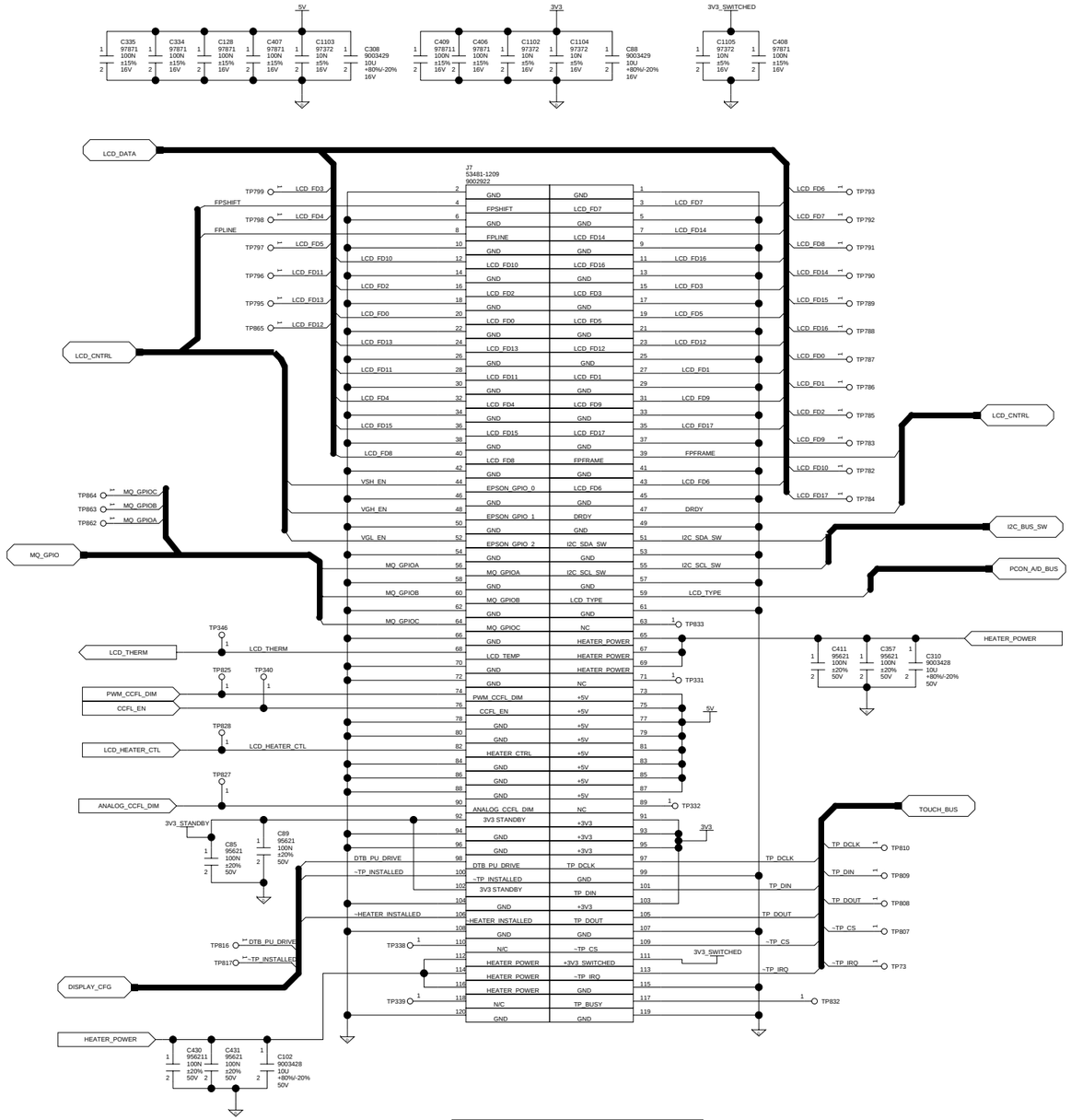
18-Nov-2004
AUG 4 2004

SIGNATURES	DATE		
DRAWN	AUG 4 2003	PSION TEKLOGIX INC	
NGT TEAM		9E, MISSISSAUGA ONTARIO	
CHKD			
APPVD		TITLE: SCHEMATIC 8525/30 MAIN LOGIC BOARD SPREAD SPECTRUM CLOCK GENERATOR	
PROJ ENG		DWG NO: 38481	REV: C 1008014 E
OTHER		Scale: N/A	SHEET 10 OF 22
ECO No.:		INTERIM REV	
REL. DATE			

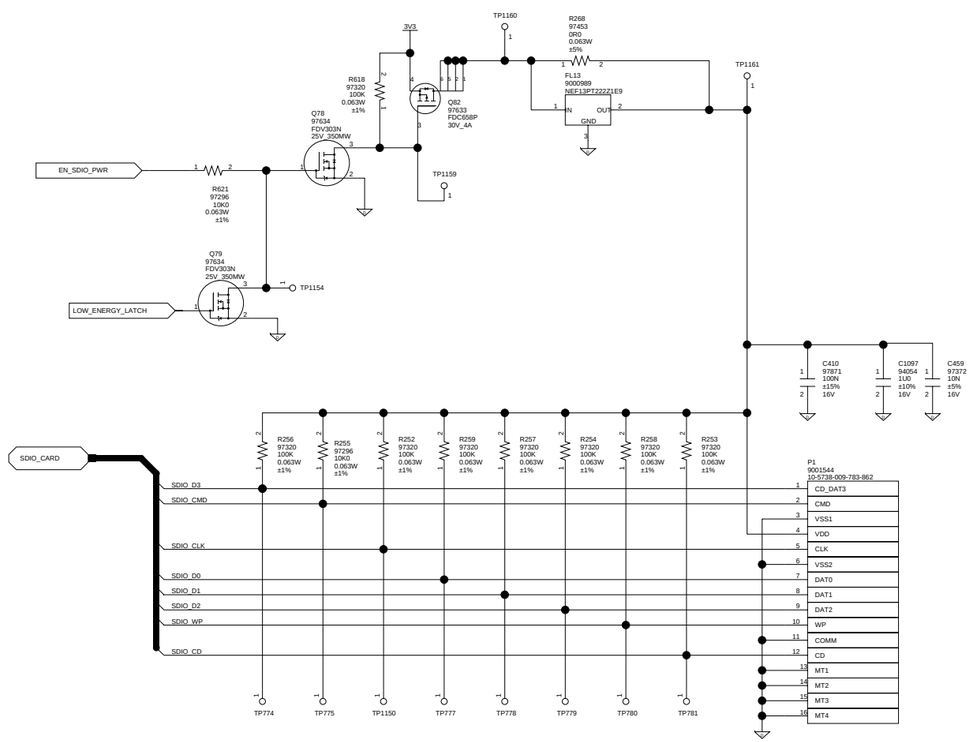


18-Nov-2004
AUG 4 2004

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD LCD CONTROLLER	
APPVD		CODE IDENT. NO. 38481	SIZE C
PROJ ENG		DRAWING NO. 1008014	REV E
OTHER		Scale N/A	INTERIM REV
ECO No.: REL. DATE			SHEET 11 OF 22



DTB CONNECTOR



SDIO SOCKET

18-Nov-2004
JUNE 16 2004
APPROVAL

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE	SCHEMATIC 8525/30 MAIN LOGIC BOARD SDIO_DTB CONNECTORS
APPVD		CODE IDENT NO.	DRAWING NO. 1008014 REV E
PROJ ENG		38481 C	
OTHER		SCALE N/A	INTERIM REV SHEET 12 OF 22
ECO No.: REL DATE			

BATTERY CHARGER

CHARGER BUCK

INRUSH LIMITER

LOW ENERGY DETECTOR

CHARGER V_ ADJUST

VBAT_MAIN_IN
EXTERNAL_PWR
TRACEWIDTH=150
R17 9000552 0R039 ±1% 1W
CHRG_PWR_IN
Q27 9002936 FDS6675 30V_11A
TP201
TP216
TP253
SYS_PWR_IN
3V3_STANDBY
R79 97320 100K 0.063W ±1%
Q14 97634 FDV303N 25V_350MW
TP261
TP260
ACPRES
Q56 BSS84 9000501 50V_350MW
R276 97296 10K0 0.063W ±1%
5VREF
R78 97320 100K 0.063W ±1%
R23 97872 1M00 0.063W ±1%
R82 97320 100K 0.063W ±1%
C46 95621 100N ±20% 50V
R195 97248 100 0.063W ±1%
R194 97248 100 0.063W ±1%
TP213
C140 94054 1U0 ±10% 16V
TP212
TP866
TP203
Q11 97634 FDV303N 25V_350MW
TP202
~ACSEL
R262 97296 10K0 0.063W ±1%
R72 97320 100K 0.063W ±1%
R81 97320 100K 0.063W ±1%
TP875
TP210
DEPLETED_BAT
CHARGE_~WDO
CHARGE_CURRENT
TP209
TP252
C293 97871 100N ±15% 16V
R263 97296 10K0 ±1% 0.063W
U55 9001558 ADM705AR
TP242
TP241
CHARGE_EN
R264 97296 10K0 0.063W ±1%
R158 97303 20K0 0.063W ±1%
TP265
TP266
DPM > 2A56
ILIMIT < 2A
TP81
TP205
R84 97320 100K 0.063W ±1%
R85 97320 100K 0.063W ±1%
C30 97375 1N0 ±10% 50V
R275 97296 10K0 0.063W ±1%
R42 9001579 137K 0.063W ±1%
C84 9003429 10U +80%/-20% 16V
U36 BQ24702PW 9001860
ACN
~ACDRV
VCC
~PWM
SRP
SRN
BATP
~BATTDRV
BATSET
BATDEP
VS
VHSP
GND
ACP
ACDET
ALARM
ACPRES
ACSEL
ENABLE
IBAT
ACSET
SRSET
VREF
COMP
TP214
TP215
R196 97248 100 0.063W ±1%
C118 97848 120P ±5% 50V
C63 9003432 4U7 ±10% 16V
TP251
TP250
D6 9000559 MMBZ5248BLT1
D18 92642 MMBD914 70V_225MA
R69 97320 100K 0.063W ±1%
R162 9000586 4R02 0.063W ±1%
C1 9003428 10U +80%/-20% 50V
C2 9003428 10U ±10% 50V
C44 95621 100N ±20% 50V
D8 9000559 MMBZ5248BLT1 18V_225MW
R349 97224 10R0 0.063W ±1%
TP232
TP766
TP233
TP234
TP235
L22 9001852 33U 20% 1A9
892NCS-330M=P3
D26 9000558 MBRS2040LT3 40V_2A
Q67 97633 FDC658P 30V_4A
R348 97224 10R0 ±1% 0.063W
R388 95559 0R05 0.25W ±1%
R261 97224 10R0 ±1% 0.063W
V_CHRG = 6 - 12V6
I_CHRG = 0 - 2A
C86 9003429 10U +80%/-20% 16V
C87 9003429 10U +80%/-20% 16V
Q1 9004282 SSTS4851
97453 0R0 R130 0.063W
TP236
TP237
TP238
R141 9000926 90K9 0.063W ±1%
R2 9001574 16K2 0.063W ±1%
TP246
Q28 9002936 FDS6675 30V_11A
TP239
R80 97320 100K 0.063W ±1%
D10 18V_225MW MMBZ5248BLT1 9000559
TP240
D7 9000559 MMBZ5248BLT1 18V_225MW
D17 92642 MMBD914 70V_225MA
R267 97296 10K0 0.063W ±1%
D9 9000559 MMBZ5248BLT1 18V_225MW
Q31 9002936 FDS6675 30V_11A
D3 93285 BAT54 30V_200MA
Q39 93037 MMBT4403LT1
TP217
C45 95621 100N ±20% 50V
MMBT4403LT1 93037 Q40
TP218
R373 97272 1K00 0.063W ±1%
TP219
R157 97303 20K0 0.063W ±1%
Q2 92525 MMBT3904 40V_225MW
TP220
R375 97272 1K00 0.063W ±1%
TP221
C93 97371 100P ±5% 50V
R374 97272 1K00 0.063W ±1%
TP267
TP231
D1 97707 12V 12V_350MW
C7 9003433 2U2 ±10% 50V
C8 9003433 2U2 ±10% 50V
C20 97764 1U0 ±20% 25V
TP259
TP249
R39 9000549 576K 0.063W ±1%
R83 97320 100K 0.063W ±1%
C28 97375 1N0 ±10% 50V
R270 97296 10K0 0.063W ±1%
3V3_STANDBY
C295 97871 100N ±15% 16V
TP226
R269 97296 10K0 0.063W ±1%
R143 97327 200K 0.063W ±1%
R167 9000928 3K32 0.063W ±1%
TP227
R3 97273 1K10 0.063W ±1%
TP229
Q8 97634 FDV303N 25V_350MW
R277 97296 10K0 0.063W ±1%
U39 97866 LPV321M7
PCON_A/D_BUS
BAT_SET
C27 97375 1N0 ±10% 50V
TP225
R25 97872 1M00 0.063W ±1%
R144 97327 200K 0.063W ±1%
R154 97276 1K50 0.063W ±1%
TP247
VTERM_DAC
VBAT_MAIN_IN
TP224
3 CELL = 9V75
R140 97331 301K 0.063W ±1%
R6 9004495 28K 0.063W ±1%
R5 97872 1M00 0.063W ±1%
Q55 BSS84 9000501 50V_350MW
R71 97320 100K 0.063W ±1%
TP230
TP228
Q9 97634 FDV303N 25V_350MW
D11 93285 BAT54 30V_200MA
TP223
2 CELL = 3V3
3 CELL = 0V
U6 LMC7215IM5 9000940
R75 97320 100K 0.063W ±1%
TP258
R273 97296 10K0 0.063W ±1%
R76 97320 100K 0.063W ±1%
C297 97871 100N ±15% 16V
2 CELL > 1V6
3 CELL < 0V3
BAT_ID
Vfl = 0V79
Vth = 1V09
Hyst = 300mV
C294 97871 100N ±15% 16V
R390 9001577 280K 0.063W ±1%
R48 97320 100K 0.063W ±1%
C298 97871 100N ±15% 16V
0V87
TP222
TP254
BAT_ID
BAT_PRESENCE
Vfl = 2V73
Vth = 3V03
Hyst = 300mV
C296 97871 100N ±15% 16V
U7 LMC7215IM5 9000940
BAT_PRES
R271 97296 10K0 0.063W ±1%
R272 97296 10K0 0.063W ±1%
TP257
3V0
R73 97320 100K 0.063W ±1%
C299 97871 100N ±15% 16V
TP255
R74 97320 100K 0.063W ±1%
TP256
I2C_BUS
U21 9004097 AD5247BKS100-RL7
I2C_SDA
I2C_SCL
TP154
TP153
C83 97375 1N0 ±10% 50V
C292 97871 100N ±15% 16V
C101 94054 1U0 10% 16V
C300 97871 100N ±15% 16V
R198 9004496 511K 0.063W ±1%
TP264
TP262
TP263
R274 97296 10K0 0.063W ±1%
U8 LMC7215IM5 9000940
LOW_ENERGY
ACPRES
Q15 97634 FDV303N 25V_350MW
R43 9001579 137K 0.063W ±1%
C301 97871 100N ±15% 16V

18-Nov-2004
AUG 4 2004

SIGNATURES		DATE	PSION TEKLOGIX INC
DRAWN	NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO
CHKD			
APP'VD			TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD POWER MANAGEMENT/ CHARGER
PROJ ENG			CODE IDENT NO. 38481 · DRAWING NO. C 1008014 · REV E
OTHER			Scale N/A · INTERIM REV · SHEET 13 OF 22
ECO No.:			
REL DATE			

3.3V / 5V PWR SUPPLY

SYS_PWR_IN

VIN = 12 & 15V NOM
20V PEAK OP
25V ABS PEAK
5.3V ABS MIN

TRACEWIDTH=150

PEAK RIPPLE = 1.75A

C3 9003428 10U ±10% 50V
C4 9003428 10U ±10% 50V
C5 9003428 10U ±10% 50V
C6 9003428 10U ±10% 50V
C12 9003428 10U ±10% 50V

POWER GND NET

U16
LTC3728EUH
9000983

5V	4	FCB	
	21	EXTVCC	5V_INTVCC
	23	VIN	BOOST1
	26	TG1	
	25	SW1	
	22	BG1	
	28	RUN_SS1	
	13	RUN_SS2	
	30	SENSE1+	
	31	SENSE1-	
	1	VOSENSE1	
	27	PGOOD	
	14	TG2	
	17	BOOST2	
	15	SW2	
	18	BG2	
	12	SENSE2+	
	11	SENSE2-	
	9	VOSENSE2	
	19	PGND	
	7	3V3_OUT	
	3	PLLIN	
	2	PLLFLTR	
	5	ITH1	
	8	ITH2	
	6	SGND	
	33	SGND_TAB	
	10	NC10	
	16	NC16	
	29	NC29	
	32	NC32	

INSTALL TO DISABLE BURST MODE

TRACEWIDTH=25

TRACEWIDTH=80

SAME AS 5V RAIL IN NORMAL OPERATION

AUX_5V_LDO

AUX_3V3_LDO

C68 9003432 4U7 ±10% 16V
C141 94054 1U0 ±10% 16V
C67 9003432 4U7 ±10% 16V

Mount Parallel Sens Resistors Together.

TRACEWIDTH=100

TRACEWIDTH=80

5A MAX 6A ABS PEAK
RIPPLE = 12mV
BACKUP = 3.0V

2.5A MAX 3A ABS PEAK
RIPPLE = 10mV

~5V_PWR_OFF
~3V3_PWR_OFF
3V3_STANDBY
3V_5V_PWROK
PWR_SYNC_CLK 409 kHz
LOW_ENERGY_LATCH
EN_SW_PWR

SIGNAL GROUND NET (WIDTH = 20)
ROUTE AS CRITICAL SIGNAL PAIR
ROUTE AS CRITICAL TRACE, NOT TO PLANE
SINGLE PLANE NODE
POWER GROUND NET

3.3V / 5V SWITCHED

5V_SWITCHED
3V3_SWITCHED
POWER LED
53261-0290 MOLEX

3.3V STANDBY REG

U52 9001599 S-8733258UP-ALA-T2
3V3_STANDBY
150mA MAX +/- 1% TYP

CPU CORE SUPPLY

HICOREVDD_EN
COREVDD_EN

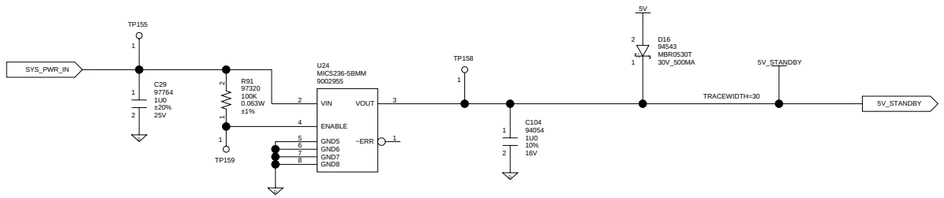
PXA255 = 1.1V - 1.3V

CORE VDD	R_SET1 || R_SET2	SA2 CLOCK
1.1V	26k7	200MHz
1.3V	16k0	400MHz

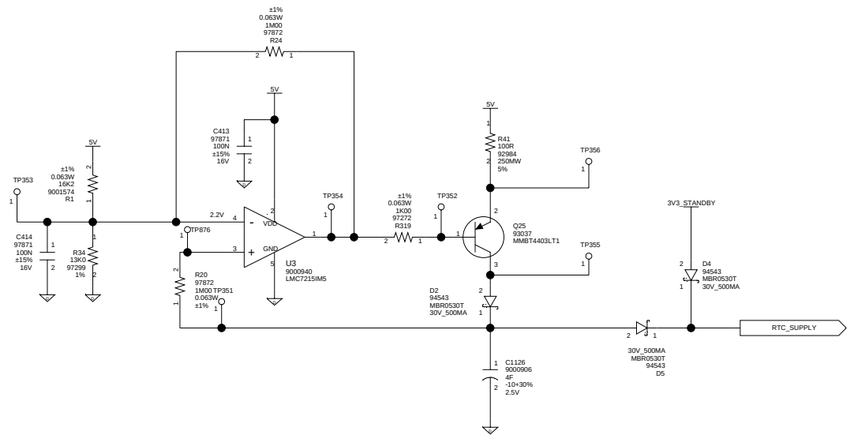
RIPPLE = 5mV
INOM = 10 - 300 MA
IMAX = 500 mA

18-Nov-2004
AUG 4 2004

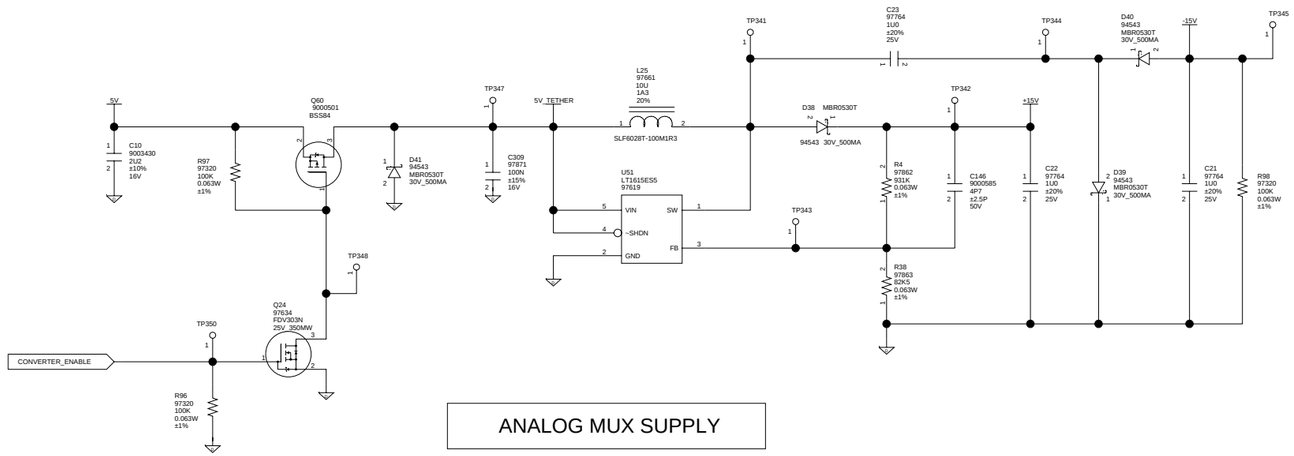
SIGNATURES		DATE	
DRAWN	NGT TEAM	AUG 4 2003	PSION TEKLOGIX INC
CHKD			MISSISSAUGA ONTARIO
APPVD			TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD DC DC CONVERTERS
PROJ ENG			DWG NO. 9ER481 SIZE C 1008014 REV E
OTHER			SCALE N/A INTERIM REV SHEET 14 OF 22
ECO No.:			
REL. DATE			



5V STANDBY REG



SUPERCAP CHARGER



ANALOG MUX SUPPLY

18-Nov-2004
AUG 4 2004
APPROVAL SIGNATURES

SIGNATURES	DATE		
DRAWN NGT TEAM	AUG 4 2003	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD MUX SUPPLY, SUPERCAP CHARGER	
PROJ ENG		CAD DWG NO.	REV
OTHER		38491 C 1008014	E
ECO No.: - REL DATE		Scale N/A INTERIM REV	SHEET 15 OF 22

TETHER PORT RS-232

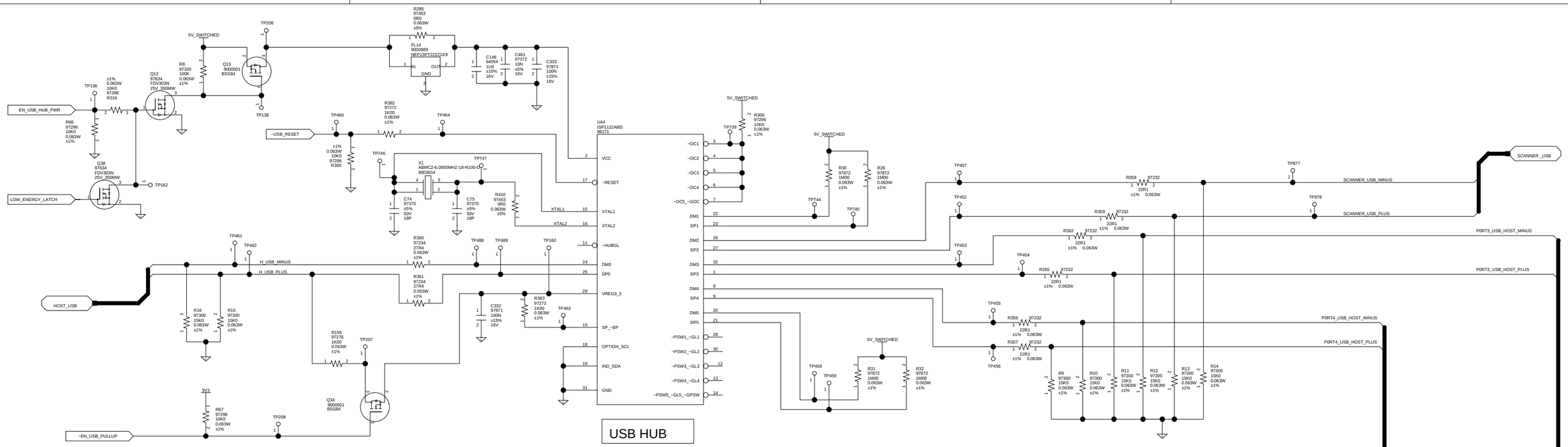
TETHER POWER

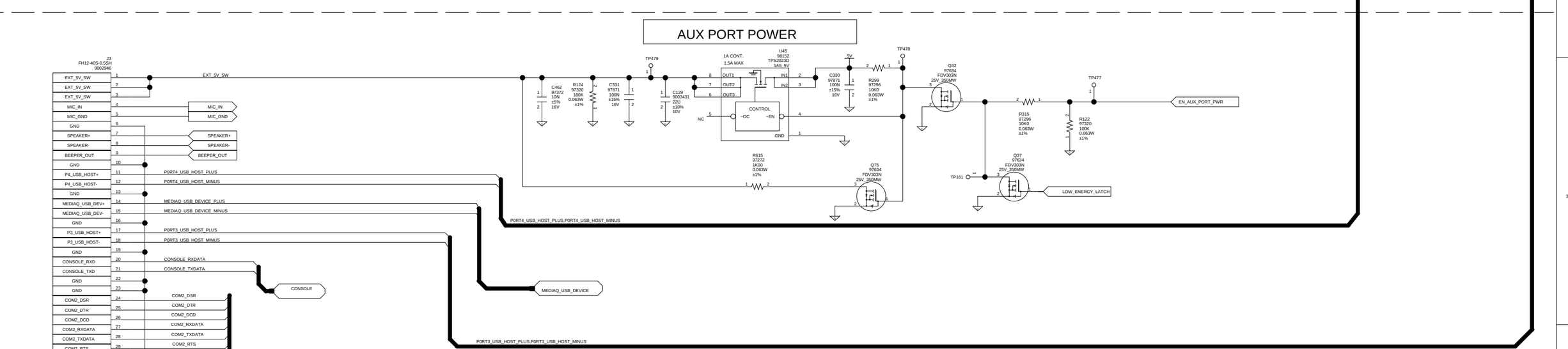
TETHER PORT

TETHER_SEL1	TETHER_SEL_0	TETHER INTERFACE
0	0	----------
0	1	TTL
1	0	RS-232
1	1	USB

SIGNATURES		DATE	PSION TEKLOGIX INC
DRAWN	NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO
CHKD			TITLE SCHEMATIC B525/30 MAIN LOGIC BOARD EXTERNAL INTERFACES
APPVD			
PROJ ENG			CODE IDENT NO. 38481 SIZE C DRAWING NO. 1008014 REV E
OTHER			SCALE N/A INTERIM REV SHEET 16 OF 22
ECO No.: REL. DATE			

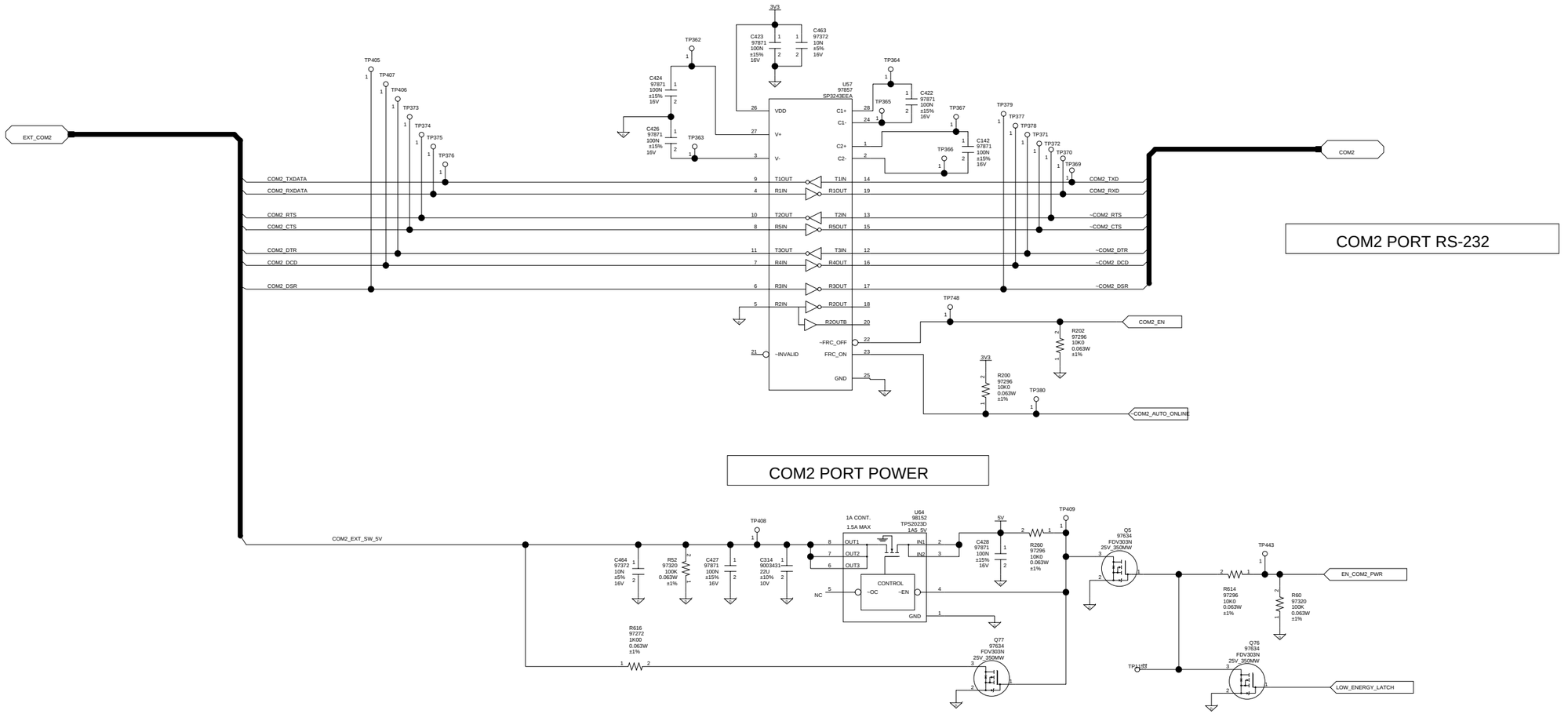
18-Nov-2004
AUG 4 2004

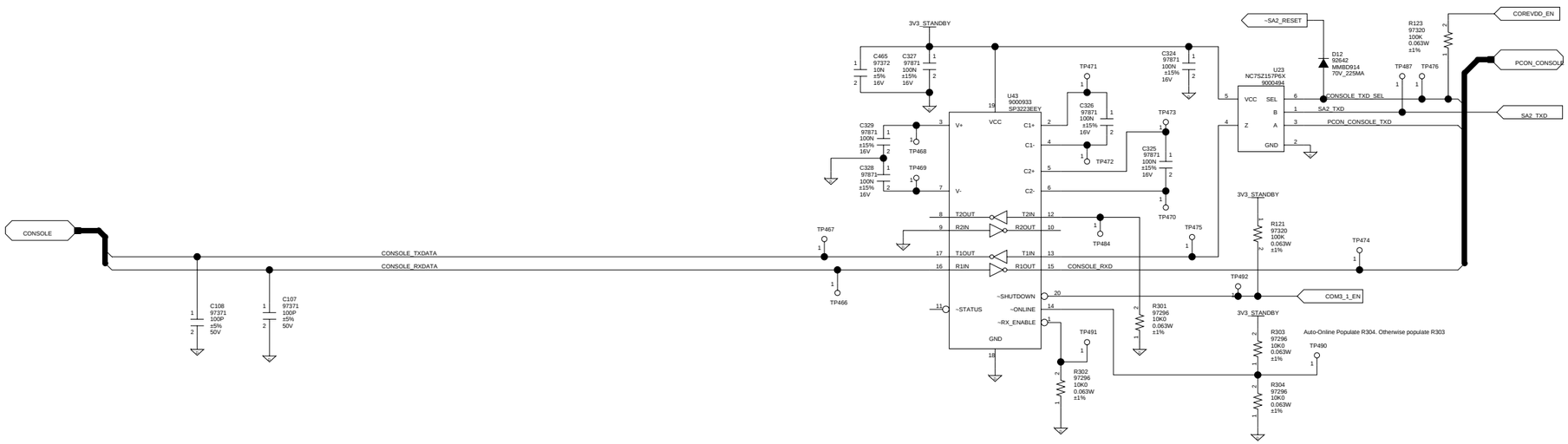




VCA
APPROVED
18-Nov-2004
AUG 4 2004

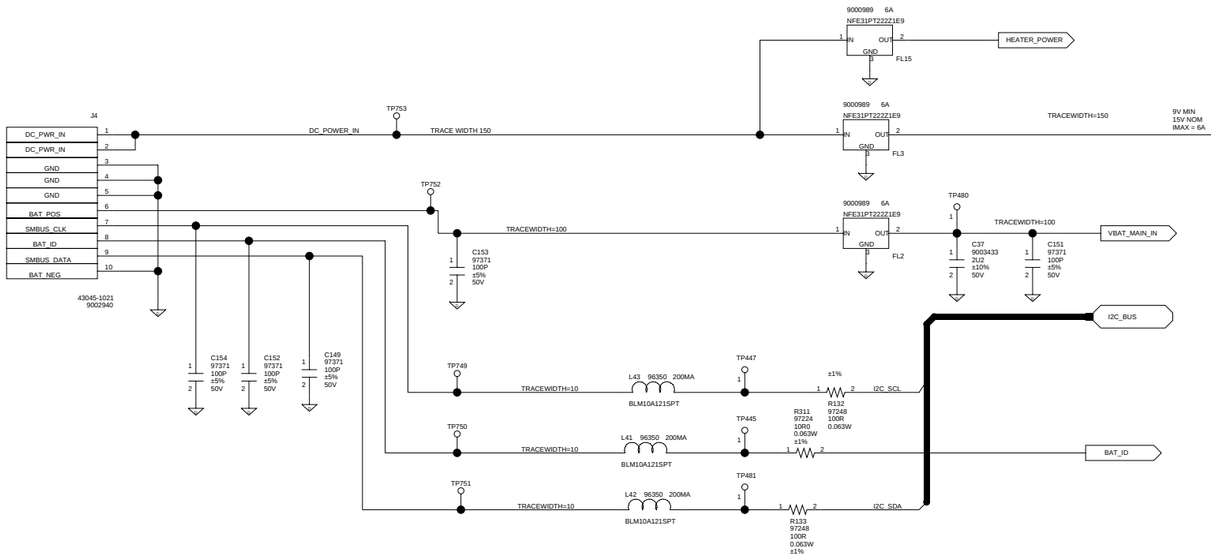
SIGNATURES	DATE	PSION TEKLOGIX INC		
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO		
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD USB HUB & EXT PORT		
APPVD				
PROJ ENG		CAGE CODE 98761	DRAWING NO. 1008014	REV E
OTHER		Scale N/A	INTERIM REV	SHEET 17 OF 22
ECO No.: REL. DATE				



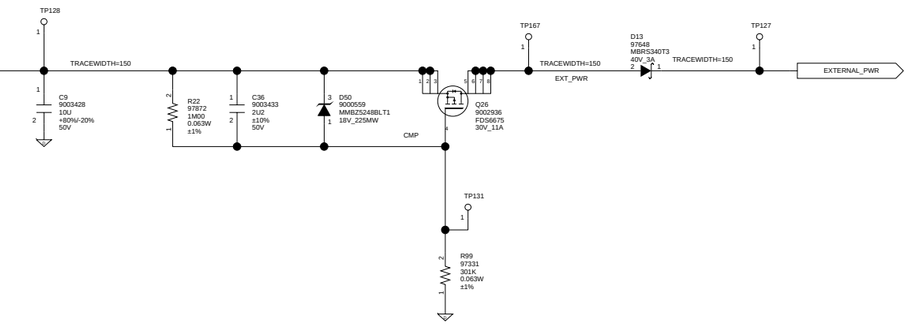


18-Nov-2004
AUG 4 2004

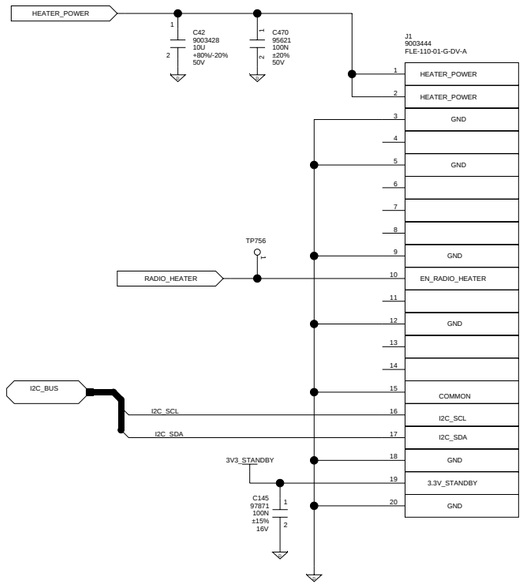
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525E MAIN LOGIC BOARD CONSOLE & COMPORT	
APPVD		CODE (CEC) 38481	Drawing No. C 1008014 REV E
PROJ ENG		Scale N/A	INTERIM REV SHEET 18 OF 22
OTHER			
ECO No.: REL DATE			



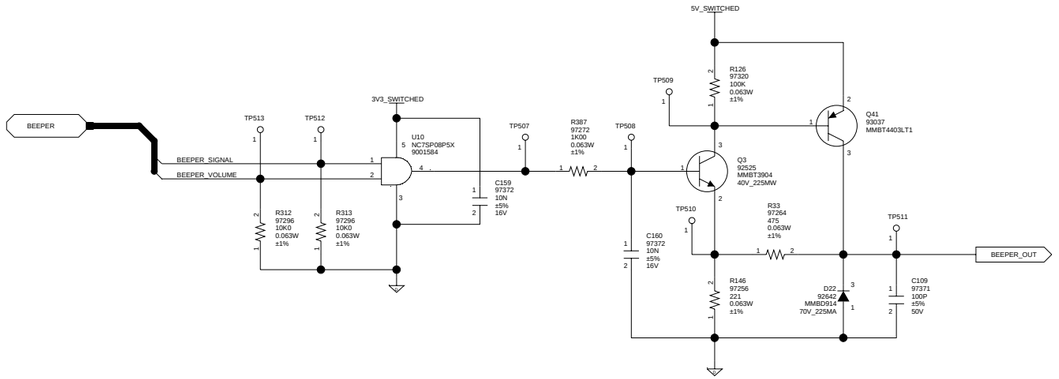
BATTERY INTERFACE



EXTERNAL POWER INRUSH LIMITER



RADIO HEATER BOARD INTERFACE



BEEPER DRIVE

18-Nov-2004
APPROVED
AUG 4 2004

SIGNATURES		DATE	PSION TEKLOGIX INC
DRAWN	NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO
CHKD			
APPVD			TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD INPUT POWER & KEYBOARD INTERFACE
PROJ ENG			CODE IDENT NO. SIZE DRAWING NO. REV
OTHER			38481 C 1008014 E
ECO No.:			Scale N/A INTERIM REV SHEET 19 OF 22
REL. DATE			

EXTERNAL KEYBOARD INTERFACE

IRQ_BUS
~KBD_IRQ
TP544
C452 97871 100N ±15% 16V
3V3_STANDBY
U82 9000515 NC7SZ125P5X
5V_STANDBY
TP758
R323 4K70 97288 63MW 1%
C429 97871 100N ±15% 16V
U47 94724 DS8921AM
VCC GND
~EXT_KYBD_DETECT
32KHZ
U77 9002950 ISL6121LIB-T
U76 9002950 ISL6121LIB-T
U74 9002950 ISL6121LIB-T
U75 9002950 ISL6121LIB-T
VIN1 VIN2 ~EN GND OUT1 OUT2 OUT3 ~FAULT
TP540
TP539
TP538
TP495
TP130
TP536
TP494
TP541
TP482
TP483
32KHZ_TX_B
32KHZ_TX_A
R68 95202 100R 0.063W 1%
R201 97296 10K0 0.063W ±1%
R211 97296 10K0 0.063W ±1%
KBD_INT_B
KBD_INT_A
C290 97371 100P ±5% 50V
C289 97371 100P ±5% 50V
C288 97371 100P ±5% 50V
C287 97371 100P ±5% 50V
C284 97371 100P ±5% 50V
C283 97371 100P ±5% 50V
C282 97371 100P ±5% 50V
C281 97371 100P ±5% 50V
C280 97371 100P ±5% 50V
C279 97371 100P ±5% 50V
~EXT_KYBD_PWR_EN
TP134
TP133
C143 97871 100N ±15% 16V
U58 9000515 NC7SZ125P5X
R612 4K70 97288 0.063W 1%
J8 9002930 FH12-24S-0.5SH
MTG TAB
GND
32KHZ_RX_B
32KHZ_RX_A
KBD_INT_B
KBD_INT_A
TXRX_SCL
TXRX_SDA
~KEYBOARD DETECT IN
3.3V_STANDBY
3.3V_SWITCHED
5V_SWITCHED
5V STANDBY
EL_COMMAND
~KEYBOARD DETECT OUT
SYSPWR

INTERNAL KEYBOARD INTERFACE

C453 97871 100N ±15% 16V
U61 9000515 NC7SZ125P5X
R322 4K70 97288 0.063W 1%
U82 NC7S04M5 97125
C105 97871 100N ±15% 16V
TP519
I2C_BUS
I2C_SCL
I2C_SDA
9002929 P82896TD U14
GND SY_SCL SX_SDA VCC RY_SCL TY_SCL RX_SDA TXD_SDA
TP500
TP501
C433 97871 100N ±15% 16V
R320 4K70 97288 1%
R321 4K70 97288 1%
C454 97871 100N ±15% 16V
U63 9000515 NC7SZ125P5X
TP759
EL_COMMAND
R391 97296 10K0 0.063W ±1%
HEATER_POWER
KEYBOARD_HEATER_EN
C116 9003428 10U +80%/-20% 50V
R288 97296 10K0 0.063W ±1%
Q7 97634 FDV303N 25V_350MW
Q33 9002936 FDS6675 30V_11A
TP548
TP757
TP523
R61 97320 100K 0.063W ±1%
KYBD_HEATER_POWER
INT_KYBD_HEATER_POWER
TP534
TP524
L48 96350 200MA BLM10A1215PT
TP505
TP525
L47 96350 200MA BLM10A1215PT
TP536
L46 96350 200MA BLM10A1215PT
TP527
L45 96350 200MA BLM10A1215PT
L44 96350 200MA BLM10A1215PT
TP528
L32 96321 2A BLM21PG221SN1?
TP529
L31 96321 2A BLM21PG221SN1?
TP530
L28 96321 2A BLM21PG221SN1?
TP531
L30 96321 2A BLM21PG221SN1?
TP532
L29 96321 2A BLM21PG221SN1?
TP533
TP506
INT_32KHZ
INT_KBD_INT
INT_TXRX_SCL
INT_TXRX_SDA
INT_EL_COMMAND
C278 97371 100P ±5% 50V
C277 97371 100P ±5% 50V
C215 97371 100P ±5% 50V
C210 97371 100P ±5% 50V
C206 97371 100P ±5% 50V
C161 97371 100P ±5% 50V
C158 97371 100P ±5% 50V
C155 97371 100P ±5% 50V
J6 9002930 FH12-24S-0.5SH
MTG TAB
GND
32KHz
BUFF_KBD_INT
TxRx_SCL
TxRx_SDA
EL_COMMAND
3.3V_SWITCHED
3.3V_STANDBY
NC
SYSPWR
5V_SWITCHED
5V STANDBY
TP504
TP503
TP502

18-Nov-2004
AUG 4 2004
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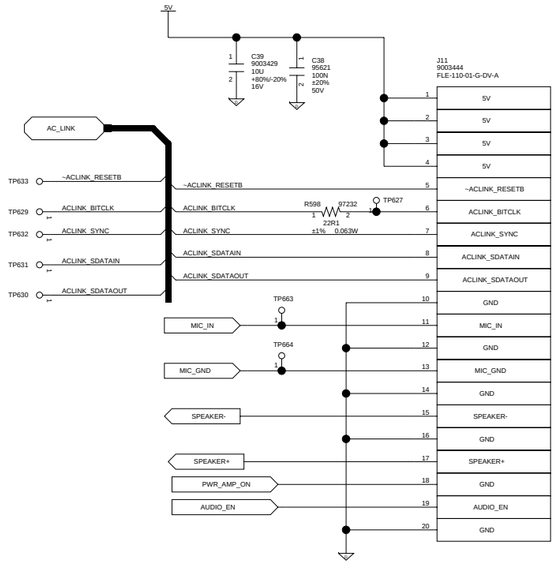
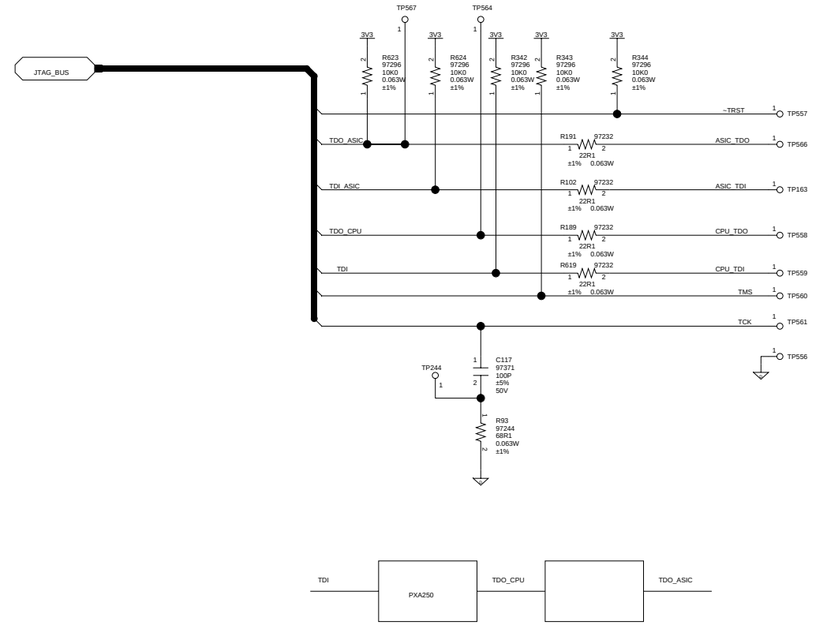
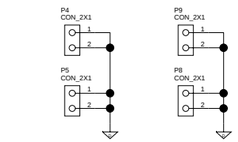
SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN NGT TEAM	AUG 4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE SCHEMATIC 8525/30 MAIN LOGIC BOARD KEYBOARD INTERFACE	
APPVD			
PROJ ENG		CODE IDENT NO 98441	SIZE C
OTHER		DWG NO 1008014	REV E
ECO No.: REL DATE		Scale N/A	INTERIM REV SHEET 20 OF 22



AUDIO BOARD INTERFACE



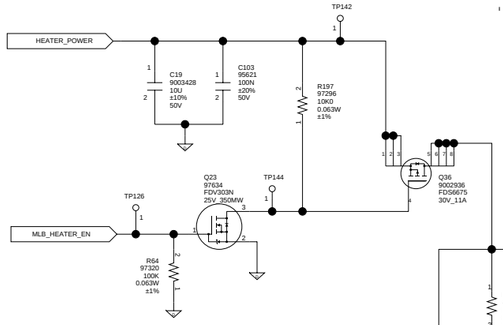
JTAG I/F

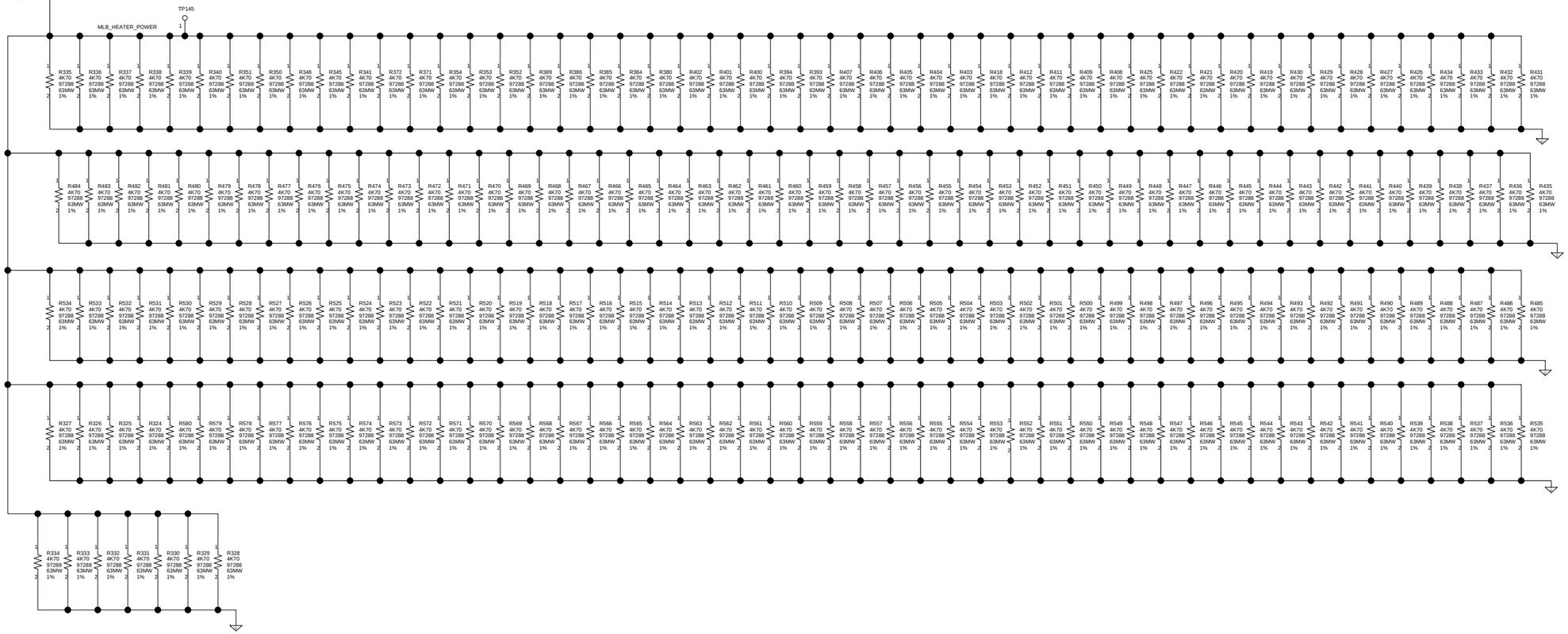


JUMPERS FOR SCOPE PROBE GROUNDING

18-Nov-2004
AUG 4 2004
APPROVED

SIGNATURES	DATE	PSION TEKLOGIX INC	
DRAWN	AUG-4 2003	MISSISSAUGA ONTARIO	
CHKD		TITLE	SCHEMATIC 85250 MAIN LOGIC BOARD
APPVD			AUDIO & JTAG INTERFACE
PROJ ENG		CAGE CODE 06 481	Drawing No. 1008014 REV E
OTHER		Scale N/A	INTERIM REV SHEET 21 OF 22
ECO No.: REL. DATE			





MLB HEATER

18-Nov-2004
AUG 4 2004
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SIGNATURES	DATE		
DRAWN: NGT TEAM	AUG 4 2003	PSION TEKLOGIX INC	
CHKD		MISSISSAUGA ONTARIO	
APPVD		TITLE: SCHEMATIC 9852-00 MAIN LOGIC BOARD HEATER CONTROL	
PROJ ENG		CAGE IDENT NO. 38481	SIZE C
		DRAWING NO. 1008014	REV E
ECO No.:	OTHER	Scale N/A	INTERIM REV
REL. DATE			SHEET 22 OF 22

Appendix 2

Test Report Serial Number RFI/EMCE1/RP46573JD02A

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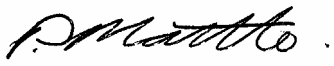
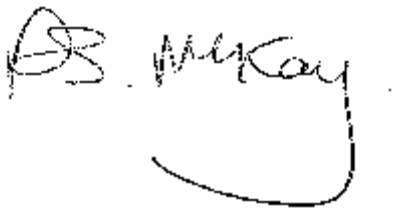
TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.

To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

Test Report Serial No:
RFI/EMCE1/RP46573JD02A

VCA Job No.: EAE059966

This Test Report Is Issued Under The Authority Of Richard Jacklin, Operations Director:	
Tested By: Phil Mantle 	**Checked By: Alex McKay** 
Report Copy No: **PDF01**	
Issue Date: 05 November 2004	**Test Dates:** 14 September 2004

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields. Furthermore, the date of creation must match the issue date stated above.

This report may be copied in full. The results in this report apply only to the sample(s) tested.

RFI Global Services Ltd
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number: 2117901

Test Of: **Psion Teklogix Inc.**
Vehicle Mount Terminal Model: 8525.
To: **95/54/EC: 1995**
ESA Approval Annex VII and Annex VIII.

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VCA
18-Nov-2004
UK APPROVAL AUTHORITY

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

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Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

---

1. Client Information

Company Name:	Psion Teklogix Inc.
Address:	2100 Meadowvale Boulevard Mississauga Ontario L5N 7J9 Canada
Contact Name:	Mr S Dharwarkar
Telephone No:	1 905 812 6200
E-mail:	sada.dharwarkar@teklogix.com

1.1. Manufacturer's Details

Company Name:	Psion Teklogix Inc.
Address:	2100 Meadowvale Boulevard Mississauga Ontario L5N 7J9 Canada
Contact Name:	Mr S Dharwarkar
Telephone No:	1 905 812 6200
E-mail:	sada.dharwarkar@teklogix.com

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

---

2. Equipment Under Test (EUT)

The following information (with the exception of the Date of Receipt) has been supplied by the client:

2.1. Identification of Equipment Under Test (EUT)

Brand Name:	Psion Teklogix
Model Name or Number:	8525
Unique Type Identification:	ENG-B TC 027
Serial Number:	None Stated
Country of Manufacture:	Canada
Date of Receipt:	13 September 2004

2.2. Description of EUT

The equipment under test is a Vehicle Mounted Computer Terminal.

2.3. Modifications Incorporated in the EUT

During the course of testing the EUT was not modified.

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

2.4. Additional Information Related To Testing

Type of ESA:	Mobile (Vehicular Use, powered via regulated Supply)	
Weight:	4.1 Kg	
Dimensions:	30 (W) x 30 (L) x 12 (H) cm	
Transmit Output Power Characteristics:	**LAN**	32mW
	Bluetooth	1mW
Alignment Range:		
Transmitter	**LAN**	2412 MHz
Receiver	**LAN**	2414 MHz
Transmitter	***Bluetooth***	2.402 GHz to 2.480 GHz
Receiver	***Bluetooth***	2.402 GHz to 2.480 GHz
Allocated (Test) Frequency:		
Transmitter	**LAN**	2412 MHz
Receiver	**LAN**	2412 MHz
Transmitter	***Bluetooth***	2.402 GHz to 2.480 GHz
Receiver	***Bluetooth***	2.402 GHz to 2.480 GHz
Power Supply Requirement:		
DC Supply (Volts)	24V	
AC Supply (Volts)	Not Applicable	
Internal Battery Supply (Volts)	Not Applicable	
Electrical System Rated Voltage:	the device can be connected to, can be any voltage between 10 VDC to 90 VDC (i.e. 12 , 24, 48, or 72 VDC)	
Grounding Polarity:	negative	
Intended Operating Environment:	Vehicular	
Cycle Time:	Less than 1sec.	
Class (Short Range Devices Only):	Class 2 (Inconvenience to persons, which cannot simply be overcome by other means)	

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2.5. Port Identification

Port	Description	Type	Applicable
1	Enclosure	-	Y

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

2.6. Support Equipment

Description:	Laptop Computer
Brand Name:	Dell
Model Name or Number:	Inspiron 3500
Serial Number:	0001600V-12961-9BR-2122
Cable Length And Type:	Not Applicable
Connected to Port:	Not Applicable

Description:	Wireless LAN Adaptor
Brand Name:	Cisco Systems
Model Name or Number:	Aironet 350 Series
Serial Number:	00097CAE5F42
Cable Length And Type:	Note Applicable
Connected to Port:	Laptop

Description:	Bluetooth Card
Brand Name:	Socket
Model Name or Number:	Socket Bluetooth Card
Serial Number:	0210011874
Cable Length And Type:	Not Applicable
Connected to Port:	Laptop

3. Test Specification, Methods & Procedures

3.1. Test Specification

Reference:	95/54/EC: 31st October 1995
Title:	Commission Directive 95/54/EC of 31st October 1995 adapting to technical progress Council Directive 72/245/EEC on the approximation of the laws of the Member States relating to the suppression of radio interference produced by spark-ignition engines fitted to motor vehicles and amending Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers.
Purpose of Test:	To determine whether the equipment complies with the requirements of the relevant annexes of the specification.

3.2. Methods and Procedures

The methods and procedures used for parts of 95/54/EC: 1995 were as detailed in:

Annex	Title
Annex VII	Method of Measurement of Broadband Electromagnetic Emissions From Electrical/Electronic Sub-Assemblies
Annex VIII	Method of Measurement of Narrowband Electromagnetic Emissions From Electrical/Electronic Sub-Assemblies

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the annexes referenced in the Methods & Procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations from the Test Specification

None.

5. Operation of the EUT During Testing

5.1. Operating Conditions

The EUT was tested in a normal laboratory environment.

During testing, the EUT was powered using a +24.0V ±10% DC supply with a ripple voltage of less than 1.5%.

5.2. Operating Modes

During testing, the EUT was operated in the following mode(s):

Mode 1 : Active. A *Bluetooth* link was established between the EUT and laptop. Also “Pinging” of data from EUT to laptop over the 80211B Wireless LAN.

5.3. Configuration and Peripherals

During testing, the EUT was configured in the following way:

Please see Schematic Diagram 001 in Appendix 2.

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

---

6. Summary of Test Results

6.1. Summary of Tests

Test Name	Section	Port Type	Compliancy Status
Radiated Narrowband Emissions	Annex VIII	Enclosure	Complied
Radiated Broadband Emissions	Annex VII	Enclosure	Complied

6.2. Location of Tests

All the measurements described in this report were performed at the premises of
RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RG, England.

7. Measurements, Examinations and Derived Results

7.1. General Comments

7.1.1. This section contains test results only. Details of the test methods and procedures can be found in section 9 of this report.

7.1.2. Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to Section 8 for details of measurement uncertainties.

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

7.2. Radiated Narrowband Emissions

7.2.1. Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)

7.2.1.1. Plots of the initial scans can be found in Appendix 3.

7.2.1.2. The following table lists frequencies at which emissions were measured using a peak detector, at a test distance of 1 meter (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
45.000	Horiz.	25.00	47.60	22.60	-	Complied
45.000	Vert.	25.70	47.60	21.90	-	Complied
65.000	Horiz.	20.30	43.60	23.30	-	Complied
65.000	Vert.	20.00	43.60	23.60	-	Complied
87.000	Horiz.	23.50	44.90	21.40	-	Complied
87.000	Vert.	24.50	44.90	20.50	-	Complied
119.811	Horiz.	27.70	45.10	17.40	-	Complied
119.811	Vert.	27.90	45.10	17.20	-	Complied
120.000	Horiz.	27.20	45.10	17.90	-	Complied
120.000	Vert.	26.60	45.10	18.50	-	Complied
150.000	Horiz.	26.30	46.60	20.30	-	Complied
150.000	Vert.	26.90	46.60	19.70	-	Complied
190.000	Horiz.	24.50	48.10	23.60	-	Complied
190.000	Vert.	25.00	48.10	23.10	-	Complied
231.000	Horiz.	25.20	51.39	26.19	-	Complied
231.000	Vert.	24.50	51.39	26.89	-	Complied
280.000	Horiz.	27.00	50.70	23.70	-	Complied
280.000	Vert.	27.00	50.70	23.70	-	Complied
380.000	Horiz.	30.560	52.70	22.20	-	Complied
380.000	Vert.	31.20	52.70	21.50	-	Complied
400.853	Horiz.	31.60	53.00	21.40	-	Complied
400.853	Vert.	31.30	53.00	21.70	-	Complied

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Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

Radiated Narrowband Emissions (Continued)

Frequency (MHz)	Line	Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
450.000	Horiz.	33.60	53.00	19.40	-	Complied
450.000	Vert.	32.70	53.00	20.30	-	Complied
600.000	Horiz.	36.90	53.00	16.10	-	Complied
600.000	Vert.	37.60	53.00	15.40	-	Complied
750.000	Horiz.	40.10	53.00	12.90	-	Complied
750.000	Vert.	40.40	53.00	12.60	-	Complied
890.848	Horiz.	43.10	53.00	9.90	-	Complied
890.848	Vert.	44.40	53.00	8.60	-	Complied
900.000	Horiz.	43.40	53.00	9.60	-	Complied
900.000	Vert.	43.80	53.00	9.20	-	Complied
937.733	Horiz.	50.10	53.00	2.90	1	Complied
937.733	Vert.	52.20	53.00	0.80	1	Complied

Note(s):

1. The measured result is within the test standard limit by a margin less than the measurement uncertainty; it is therefore not possible to state compliance based on the 95% level of confidence. However, the result indicates that compliance is more probable than non-compliance.

Test Of: Psion Teklogix Inc.
Vehicle Mount Terminal Model: 8525.
To: 95/54/EC: 1995
ESA Approval Annex VII and Annex VIII.

7.3. Radiated Broadband Emissions

7.3.1. Electric Field Strength Measurements (Frequency Range: 30 to 1000 MHz)

7.3.1.1. Plots of the initial scans can be found in Appendix 3.

7.3.1.2. The following table lists frequencies at which emissions were measured using a Quasi-Peak detector, at a test distance of 1 meter (results incorporate antenna factors and cable losses):

Results:

Frequency (MHz)	Line	Quasi Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
45.000	Horiz.	22.50	57.60	35.10	-	Complied
45.000	Vert.	22.90	57.60	34.70	-	Complied
65.000	Horiz.	17.90	53.60	35.70	-	Complied
65.000	Vert.	17.70	53.60	35.90	-	Complied
87.000	Horiz.	21.30	54.97	33.60	-	Complied
87.000	Vert.	21.20	54.97	33.70	-	Complied
119.811	Horiz.	25.10	55.07	30.00	-	Complied
119.811	Vert.	24.90	55.07	30.20	-	Complied
120.000	Horiz.	24.50	55.10	30.60	-	Complied
120.000	Vert.	24.70	55.10	30.40	-	Complied
150.000	Horiz.	24.40	56.00	32.20	-	Complied
150.000	Vert.	24.80	56.00	31.80	-	Complied
190.000	Horiz.	22.80	58.10	35.30	-	Complied
190.000	Vert.	23.10	58.10	35.00	-	Complied
231.000	Horiz.	22.70	61.39	38.69	-	Complied
231.000	Vert.	23.00	61.39	38.39	-	Complied
280.000	Horiz.	25.70	60.70	35.00	-	Complied
280.000	Vert.	25.50	60.70	35.20	-	Complied
380.000	Horiz.	28.80	62.70	33.90	-	Complied
380.000	Vert.	28.80	62.70	33.90	-	Complied
400.853	Horiz.	29.60	63.00	33.40	-	Complied
400.853	Vert.	29.60	63.00	33.40	-	Complied

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Radiated Broadband Emissions (Continued)

Frequency (MHz)	Line	Quasi Peak Level (dBµV)	Limit (dBµV)	Margin (dB)	Note(s)	Result
450.000	Horiz.	31.30	63.00	31.70	-	Complied
450.000	Vert.	31.30	63.00	31.70	-	Complied
600.000	Horiz.	34.90	63.00	28.10	-	Complied
600.000	Vert.	35.10	63.00	27.90	-	Complied
750.000	Horiz.	38.60	63.00	24.40	-	Complied
750.000	Vert.	38.60	63.00	24.40	-	Complied
890.848	Horiz.	41.10	63.00	21.90	-	Complied
890.848	Vert.	41.10	63.00	22.00	-	Complied
900.000	Horiz.	41.30	63.00	21.70	-	Complied
900.000	Vert.	41.30	63.00	21.70	-	Complied
937.733	Horiz.	45.60	63.00	17.40	-	Complied
937.733	Vert.	44.60	63.00	18.40	-	Complied

8. Measurement Uncertainty

8.1. No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

8.2. The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

8.3. The uncertainty of the result may need to be taken into account when interpreting the measurement results.

8.4. The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Range	Confidence Level	Calculated Uncertainty
Radiated Emissions: Electric Field Strength	30 MHz to 1000 MHz @ 1 m	95%	± 6.32 dB

8.5. The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

9. Measurement Methods

9.1. Radiated Narrow Band Emissions: Annex VIII.

9.1.1. These measurements were performed in accordance with the standard, against appropriate limits for narrow band emissions using an average detector.

9.1.2. Initial scans covering the entire band in a shielded enclosure were performed in order to identify frequencies on which the EUT was generating interference. This determined the frequencies on which the EUT should be re-measured in full on the open area test site. A peak detector was used in conjunction with the appropriate detector IF measuring bandwidth (see table below), repetitive scans were performed to allow for emissions with low repetition rates, and for the duty cycle of the EUT. The test configuration was the same for the initial scans as for the final measurements on a 1.0m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT). These initial scans were performed with the antenna in both horizontal and vertical polarisations.

9.1.3. All measurements were performed using an antenna height of 1.05 m and a measurement distance of 1.0 m (measured from the table edge to the nearest point of the measuring antenna). Following the initial scans, graphs were produced giving an overview of the emissions from the EUT plotted against the appropriate specification limit. A tolerance line was set 10 dB below the reference limit and levels above this were re-tested on the open area test site using a measuring receiver with a peak detector.

9.1.4. For the main (final) measurements the EUT was arranged on a 1.0m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT), on an open area test site as detailed in the specification.

9.1.5. All measurements on the open area test site were performed with a broadband antenna.

9.1.6. The test equipment settings for radiated narrowband emissions measurements were as follows:

Receiver Function	Initial Scan	Final Measurements
Detector Type:	Peak	Peak
Mode:	Max Hold	Not applicable
Bandwidth:	120 kHz	120 kHz
Amplitude Range:	60 dB	20 dB
Measurement Time:	Not applicable	> 1 s
Observation Time:	Not applicable	> 15 s
Step Size:	Continuous sweep	Not applicable
Sweep Time:	Coupled	Not applicable

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9.2. Radiated Broad Band Emissions: Annex VII.

9.2.1. These measurements were performed in accordance with the standard, against appropriate limits for a Quasi Peak detector.

9.2.2. All measurements were performed with an antenna height of 1.15m and a measurement distance of 1.0 m (measured from the table edge to the nearest point of the measuring antenna) using a measuring receiver incorporating a Quasi Peak detector.

9.2.3. The frequencies to be measured were determined by the spot frequencies given in the specification and from the spurious emissions observed during the pre-scan stage of the narrowband emissions test.

9.2.4. For the main (final) measurements the EUT was arranged on a 1.0m high non-conducting table, (this table may or may not have an earthed metallic ground plane, depending on the earthing requirements of the EUT) on an open area test site, as detailed in the specification.

9.2.5. All measurements on the open area test site were performed with a broadband antenna.

9.2.6. The test equipment settings for radiated broadband emissions measurements were as follows:

Receiver Function	Final Measurements
Detector Type:	Quasi Peak
Bandwidth:	120 kHz
Amplitude Range:	20 dB
Measurement Time:	> 1 s
Observation Time:	> 15 s

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Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.
A051	ESH3-Z6 V-Network	Rohde & Schwarz	ESH3-Z6	892 563/007
A052	ESH3-Z6 V-Network	Rohde & Schwarz	ESH3-Z6	892 563/008
A1306	N-Type Connector	Narda	370 BNM	0210
A1307	N-Type Connector	Narda	370 BNM	0210
A259	Bilog Antenna	Chase	CBL6111	1513
A276	OATS Positioning Controller	Rohde & Schwarz	HCC	
A392	3 dB attenuator (9)	Suhner	6803.17.B	None
A459	Bi-log Antenna	Chase	CBL6111A	1593
A553	Bi-log Antenna	Chase	CBL6111A	1593
C320	Cable	Rosenberger	UFA 210A-1-0788-50x50	96A0123
C341	Cable	Andrews	None	None
C461	Cable	Rosenberger	UFA210A-1-1182-704704	98H0305
C468	N-Type Coaxial Cable	Rosenberger	UFA210A-1-3937-504504	98L0440
M003	Spectrum Monitor	Rohde & Schwarz	EZM	883 580/008
M044	ESVP Receiver	Rohde & Schwarz	ESVP	891 845/026
M088	Receiver / Spectrum Analyser System	Rohde & Schwarz	ESBI	DU:835862/018 RU:835387/006
M209	Thermo/hygro meter	RS Components	RS212-124	M209-RS212-124
M244	Thermometer/Barometer/Hygrometer	Oregan Scientific	BA 116	None
S201	Site 1	RFI	1	
S212	Site 12	RFI	12	

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

Appendix 2. Test Configuration Drawings

This appendix contains the following drawings:

Drawing Reference Number	Title
DRG\46573JD02\001	Test configuration for measurement of radiated emissions
DRG\46573JD02\002	Schematic diagram of the EUT, support equipment and wiring harness

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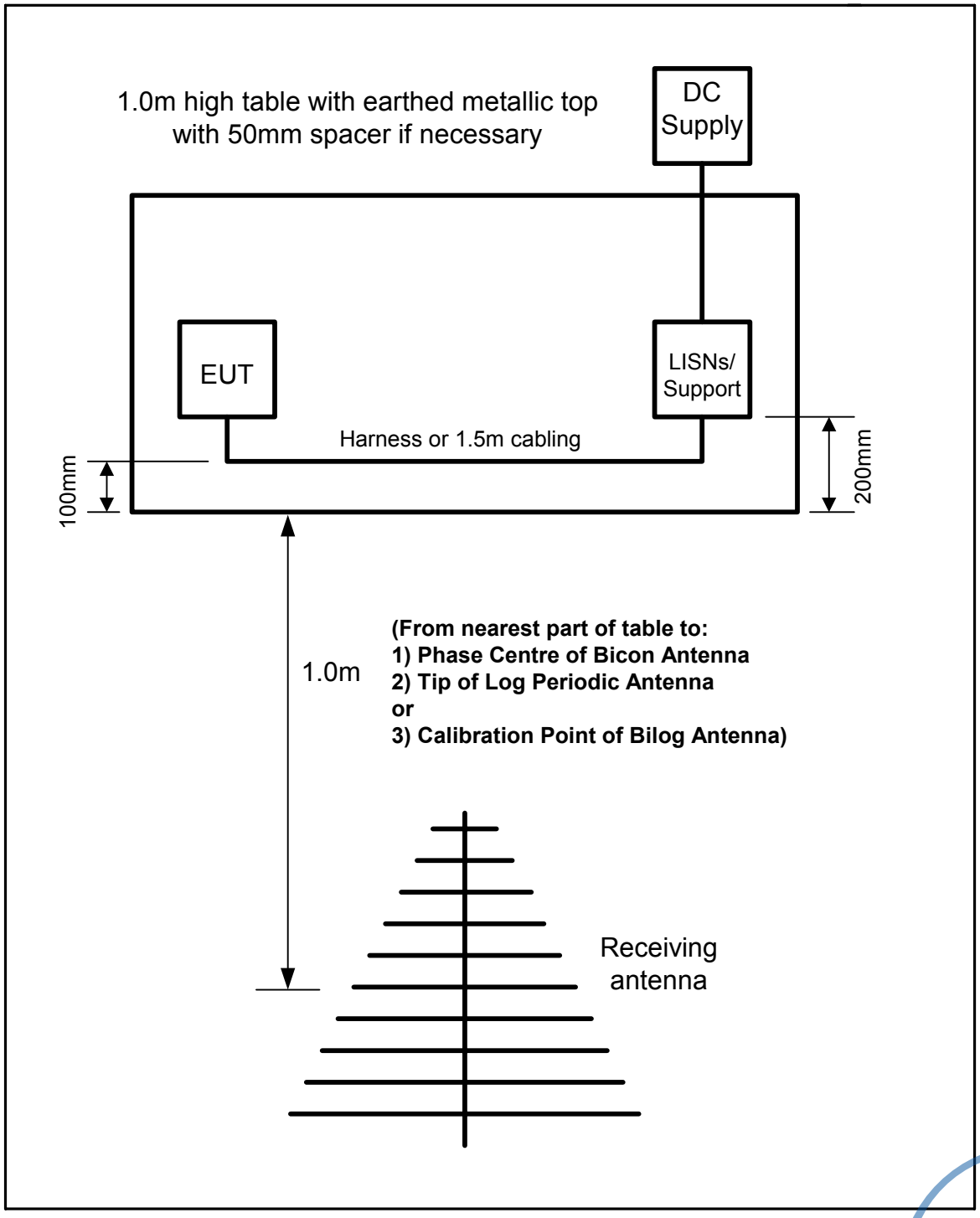

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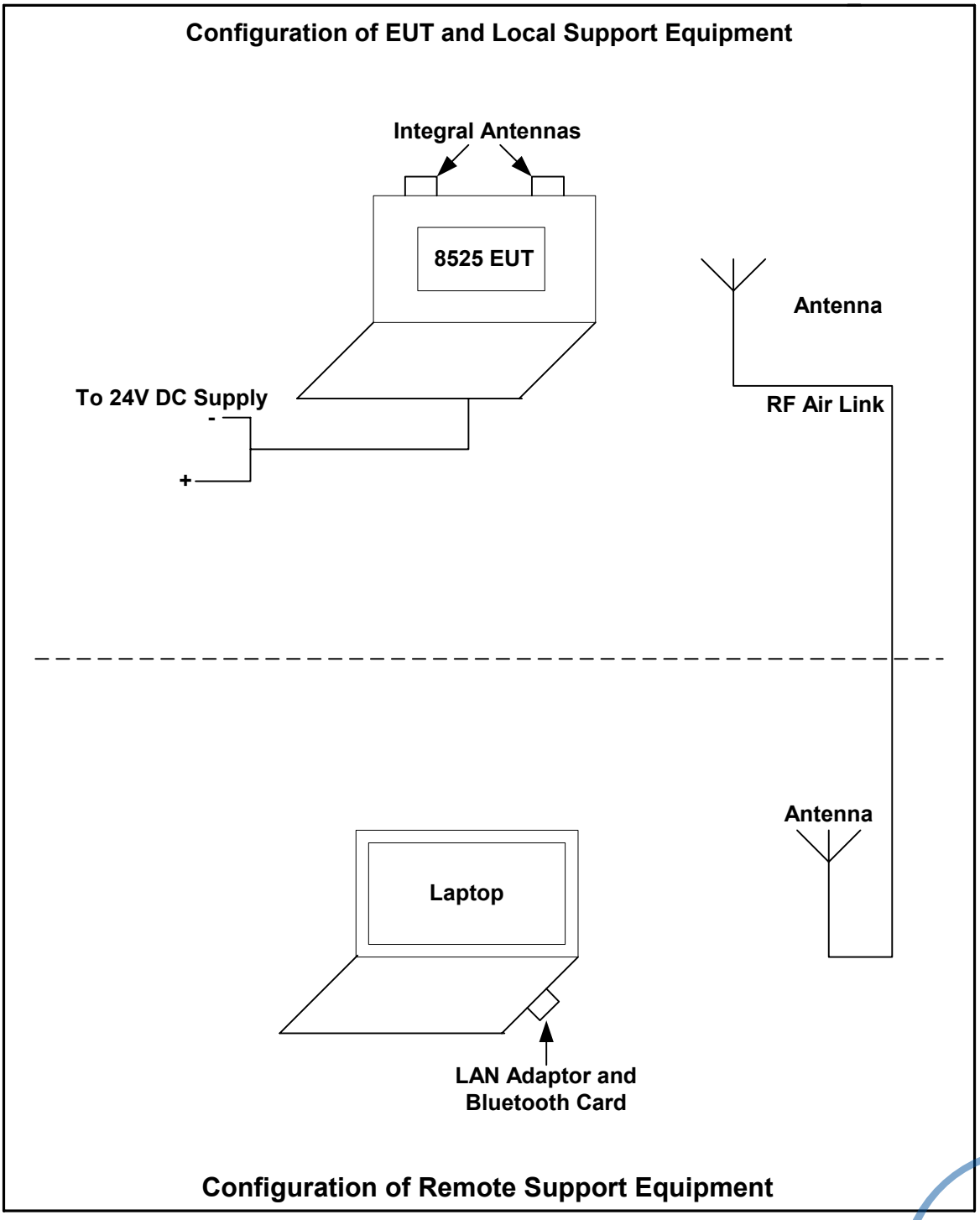

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Appendix 3. Graphical Test Results

This appendix contains the following graphs which are not included in the total number of pages for this report.

Graph Reference Number	Title
GPH\46573JD02\001	Mode 1: Active

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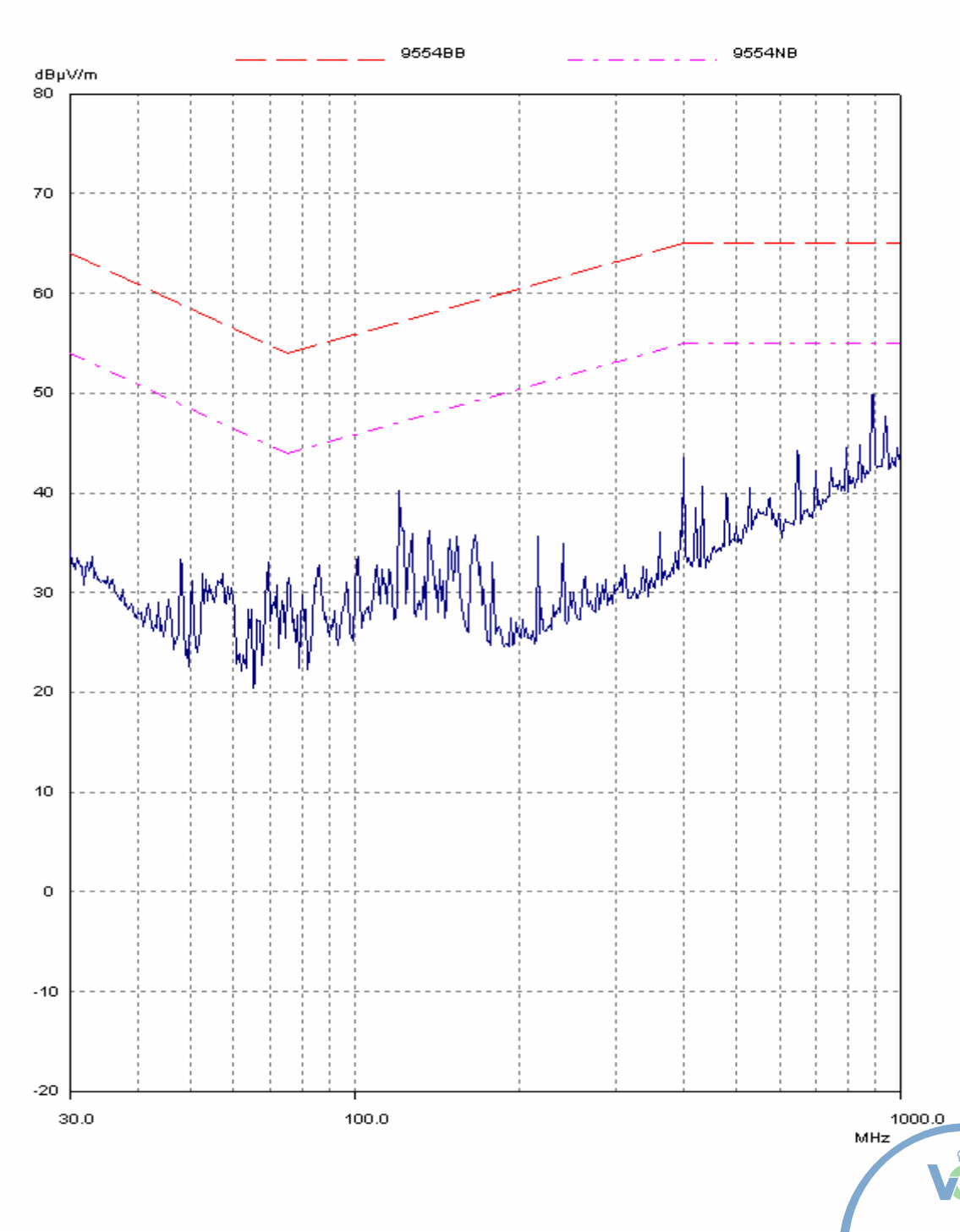
GPH\46573JD02\001
Mode 1: Active



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Appendix 4 Photographs of EUT

This appendix contains the following photographs:

Photo Reference Number	Title
PHT/46573JD02/001	Rear View of OATS Set Up
PHT/46573JD02/002	Side View of OATS Set Up
PHT/46573JD02/003	Side View of OATS Set Up, Showing EUT
PHT/46573JD02/004	View of EUT and Loom

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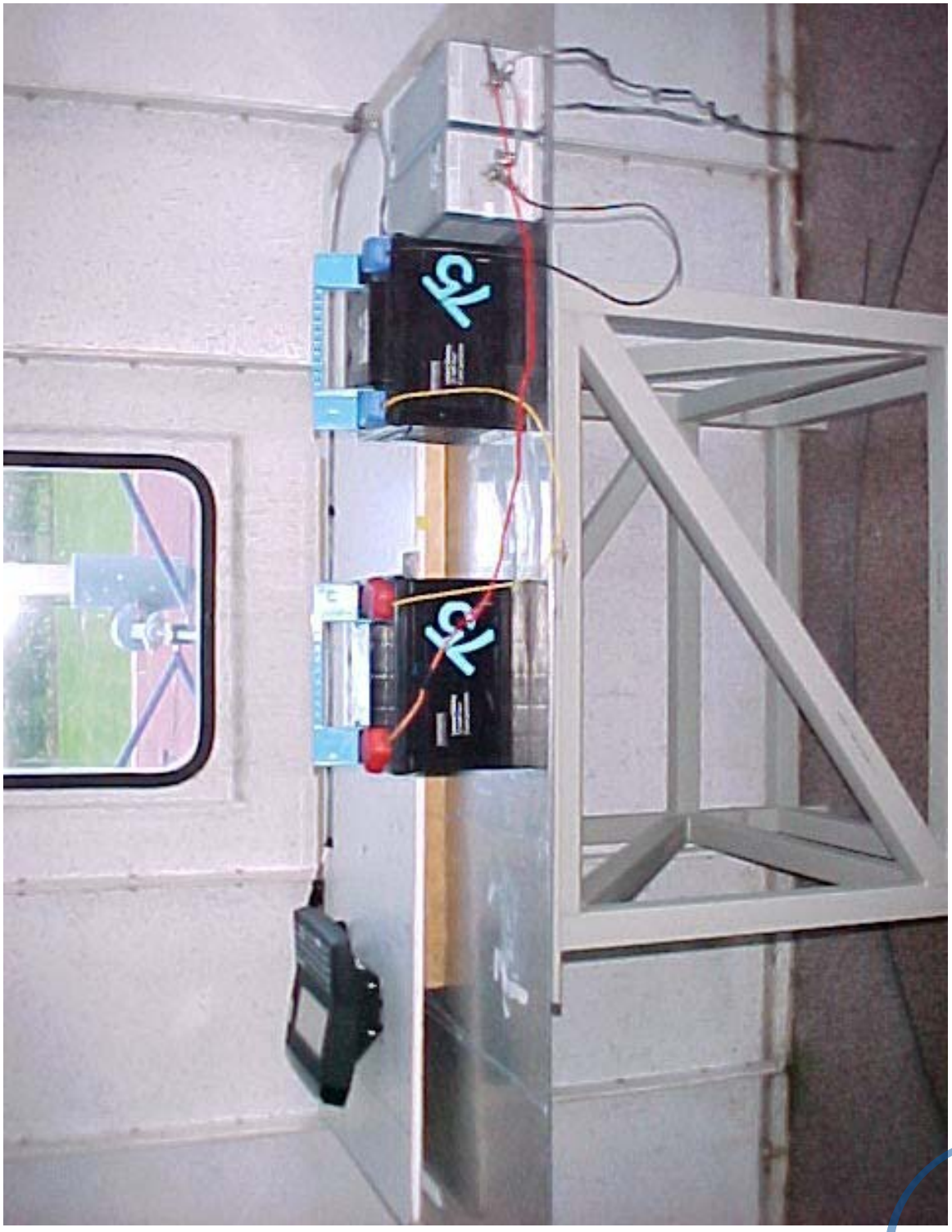
PHT/46573JD02/001 Rear View of OATS Set Up



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PHT/46573JD02/002 Side View of OATS Set Up

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PHT/46573JD02/003 Side View of OATS Set Up, Showing EUT

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PHT/46573JD02/004 View of EUT and Loom

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